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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1901.

No. 181

JOHN A. BRILL AND THE J. G. BRILL COMPANY, PETITIONERS,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT.

PETITION FOR CERTIORARI FILED [illegible]

[illegible]

(18,297.)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1901.

No. 444.

JOHN A. BRILL AND THE J. G. BRILL COMPANY, PETITIONERS,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT.

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a United States Circuit Court of Appeals for the Second Circuit.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, Appellees,
v.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, EDGAR Peckham, W. G. Price, Erwin G. Long, and Theodore Spore, Defendants, Appellants.

Transcript of Record.

Appeal from the circuit court of the United States for the southern district of New York.

[Stamped:] United States circuit court of appeals, second circuit. Filed Jan. 17, 1901. William Parkin, clerk.

1 Circuit Court of the United States, Southern District of New York. In Equity.

Between—

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants,
and
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, EDGAR Peckham, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants.

To the honorable the judges of the circuit court of the United States for the southern district of New York, sitting in equity:

John A. Brill, of Philadelphia, in the State of Pennsylvania, and the J. G. Brill Company, a corporation organized under the laws of the State of Pennsylvania, bring this bill of complaint against the Peckham Motor Truck and Wheel Company, Edgar Peckham, W. G. Price, Erwin G. Long, John H. Bickford and Theodore Spore.

And thereupon your orators complain and say as follows:

1. They are informed and believe and here aver that the Peckham Motor Truck and Wheel Company is a corporation or-
2 ganized and existing under the laws of the State of New York and a citizen thereof, having its principal office and doing business in the city of New York, borough of Manhattan, in the State of New York, and having its manufacturing plant and business at Kingston, both in the southern district of New York; and is an inhabitant of the southern district of New York; that Edgar Peckham is an inhabitant of the city of New York, borough of Manhattan, in the southern district of New York, and is, and has been since its organization in 1891, president and a director of The Peckham Motor Truck and Wheel Company, defendant; that W. G. Price is an inhabitant of Kingston, in the southern district of New York; that Erwin G. Long has a regular and established place of business

in the city of New York, borough of Manhattan, and at Kingston, both in the southern district of New York, and is, and has been for several years last past, office president of the said company; that John H. Bickford has a regular and established place of business in the city of New York, borough of Manhattan, in the southern district of New York; and that Theodore Spore is an inhabitant of said Kingston, in the southern district of New York, and is, and has been for several years last past, secretary of the said defendant corporation. That the said Price, Long, Bickford and Spore are and have been for several years last past directors of the said defendant corporation, The Peckham Motor Truck and Wheel Company.

2. Your orators are informed and believe that George Martin Brill, of Philadelphia, was, before the twenty-sixth day of June, 1891, the original and first inventor of certain new and useful improvements in car trucks, which improvements had not been known or used before his invention thereof.

3. That so being the original and first inventor of the said
3 improvements, and the same not having been known or used by others in this country before his invention thereof, and not having been patented or described in any printed publication in this or any foreign country before his invention thereof, or more than two years prior to his application for letters patent thereon, and not having been in public use or on sale in this country for more than two years prior to his said application, and not having been abandoned, he, the said George Martin Brill, made application in due form of law to the Commissioner of Patents for letters patent of the United States for the said invention. Thereupon such proceedings were had that letters patent of the United States were granted and issued in due form of law and delivered to him, said letters patent being numbered 478,218, and dated July 5, 1892, whereby was secured to him, George Martin Brill, his executors, administrators or assigns, for the term of seventeen years from the date of the said letters patent, the full and exclusive right and liberty of making, using and vending to others to be used, the said improvements throughout the United States, as by the said letters patent or a duly authenticated copy thereof in court to be produced, will fully and at large appear; and the said George Martin Brill was thereafter continuously the exclusive owner of the said letters patent, and of all the rights secured thereby, until the third day of December, 1894, when, by an assignment in writing of that date, executed and delivered by said George Martin Brill, he assigned, sold and set over unto your orator, John A. Brill, all his right, title and interest in and to the said letters patent, and all the rights thereby secured, which said assignment was duly recorded in the Patent Office of the United States, in Liber M 50, page 300, of Transfers of Patents, as by said assignment and the certificate of such recording thereto affixed, or by a duly authenticated copy thereof, ready in court to be produced, will fully and at large appear.

And the said George Martin Brill, did, on July 6, 1897, by an
4 instrument in writing of that date, assign, sell and set over unto your orator, John A. Brill, all the right, title and inter-

est which he had at that time under said letters patent, together with all his rights to all damages and profits then due and owing to him from any and all persons whatsoever by reason of any infringement thereof, and the right to sue for, recover and collect the same, which said assignment was duly recorded in the Patent Office of the United States, in Liber E 56, page 172, of Transfers of Patents, as by the said assignment and certificate of such record thereto affixed, or by a duly authenticated copy thereof, ready in court to be produced, will fully and at large appear.

4. And your orators further show unto your honors that by virtue of the premises John A. Brill became and has since been, and now is, the sole and exclusive owner of said letters patent, numbered 478,218, and of the invention described therein, and of all the rights and privileges granted and secured, or intended to be granted and secured thereby and of the rights of action thereunder, and The J. G. Brill Company, complainant, by virtue of a verbal agreement between it and the said John A. Brill, entered into more than six years before the commencement of this suit, has ever since December 3, 1894, been and now is the sole and exclusive licensee thereunder for the entire United States, and is now and has been since the last-mentioned date, engaged in the manufacture of car trucks under said license.

5. And your orators further show unto your honors that the said inventions and improvements are very valuable and useful to the public, and the same have been extensively introduced into public use, and that your orators' rights in the premises have been generally acquiesced in and recognized by the public, and your orators would, but for the wrongful acts of the said defendants, and others acting in concert with the said defendants, have made large gains and profits from the manufacture, use and sale of the said inventions, which they have been and are now hindered from making by reason of said wrongful acts of the said defendants.

6. And your orators further show unto your honors, upon information and belief, that the said defendants, well knowing the premises and the rights and privileges secured unto your orators, and in order to deprive them of the profits, benefits and advantages which might and otherwise would have accrued to them, at the city of New York, borough of Manhattan, New York, and at Kingston, New York, both within the said southern district of New York, and elsewhere within the United States, and without the license and permission of your orators or of the said George Martin Brill, have, before the commencement of this suit and within six years preceding the said commencement, and since July 5, 1892, unlawfully and wrongfully manufactured and sold street or other cars containing on each car the said inventions and improvements, described and patented in the said letters patent, numbered 478,218.

7. And your orators further show unto your honors that the said inventions and improvements so patented as aforesaid are important and useful elements in the construction of a useful and efficient street or other car, and your orators are informed and believe that

the said inventions and improvements so patented as aforesaid have been manufactured and sold by the defendants on street cars, and that a large number of such cars so manufactured and sold by the defendants contain and use, each one of them, the inventions and improvements set forth, which said unlawful manufacture and sale by the defendants as aforesaid are a violation and infringement of your orators' exclusive rights and privileges, and to your orators' great and irreparable loss and injury, and by which your orators have sustained and been put to a great loss and damage, and
6 have been and still are deprived of great gains and profits, which your orators might and otherwise would have obtained and received, but which have been received and enjoyed, and are being received and enjoyed, by the said defendants, by and through their aforesaid unlawful acts and doings; and that the said defendants have derived and received and are still deriving and receiving therefrom great gains and profits, but to what amount your orators are ignorant and cannot set forth, but your orators believe the same to be about the sum of $250,000, and so charge the fact to be, and pray that the said defendants may be required to make a discovery as to their manufacture and sale of said inventions and of all gains and profits received by them therefrom or by reason thereof.

8. And your orators further show unto your honors that the aforesaid manufacture and sale of said inventions and improvements by the defendants and their confederates, and their preparation and determination to continue the same, and the aforesaid unlawful and wrongful acts have the effect to encourage and induce other persons to infringe and defy the letters patent as aforesaid, and the aforesaid rights and privileges of your orators.

9. And your orators further show unto your honors, that the said defendants have long since had notice of your orators' rights in the premises, and have been warned and requested and notified to desist and refrain from said infringement and said unlawful and wrongful acts, but the said warning and request and notice have been wholly disregarded by said defendants, and the said defendants still continue the infringement and unlawful and wrongful acts aforesaid, and now threaten and intend so to do.

10. And your orators further aver that upon the tenth
7 day of July, 1897, the said John A. Brill filed his bill of complaint in equity in the circuit court of the United States for the southern district of New York, against The Third Avenue Railroad Company, a corporation organized under the laws of the State of New York, and operating a street railway in the city of New York in said district. That in said bill and in an amendment thereto, he averred the grant of letters patent of the United States, No. 478,218, dated July 5, 1892, to George Martin Brill; that by two several instruments in writing, the one dated December 3, 1894, the other dated July 6, 1897, and both recorded in the Patent Office of the United States, the said George Martin Brill transferred and assigned to the complainant therein the said letters patent, and all rights thereby secured, and rights of action arising thereunder; that, without the license or permission of the complainant therein,

or the said George Martin Brill, the defendant therein had unlawfully and wrongfully used street or other cars containing the inventions or improvements described and patented in the said letters patent, numbered 478,218, and had infringed upon the rights of the complainant therein under said letters patent, and praying that the defendent therein be compelled by decree to account for and pay over to the complainant therein, all such gains and profits as had accrued to the defendant therein by reason thereof, and all damages sustained by the complainant therein, by reason of said infringement by the defendant therein, and further praying that an injunction of the court be directed to the defendant therein, restraining the said defendant from directly or indirectly making or causing to be made, using or causing to be used, or vending to others to be used in any way, any street or other cars containing or embodying or counterfeiting or imitating the said invention described and claimed and secured in the said letters patent, and from infringing upon or violating the rights of the complainant therein, under the said letters patent. Whereupon an answer to the said bill of complaint was filed in the said cause by The Third
8 Avenue Railroad Company, defendant therein. The entire defense of the said cause was undertaken and conducted by The Bemis Car Box Company, a corporation engaged in the manufacture of car trucks, which had manufactured and appeared by the proofs in the cause, to have manufactured the truck structures therein complained of, to the number of one hundred and eighty-one; their counsel appeared of record for the said defendant therein, and conducted and controlled the proceedings at all stages thereof.

After replication filed, the proofs for final hearing were duly taken, and the cause, on June 1, 1900, came on for final hearing before his honor Judge Shipman, upon bill, answer and proofs, and was argued by counsel on behalf of the respective parties, counsel for defendant acting therein also on behalf of the Bemis Car Box Company. Whereupon the court, upon consideration, handed down and filed, on July 9, 1900, its opinion sustaining the validity of the said letters patent as to claims Nos. 1, 2, 9, 10, 11, 12, 14 and 27, and directing the entry of a decree, with costs, for an injunction against the infringement by the defendant of the rights of the complainant therein, under the said claims and for an accounting. Whereupon, on July 26, 1900, a decree was entered and filed in the said cause that said letters patent No. 478,218, to George Martin Brill, were good and valid as to claims Nos. 1, 2, 9, 10, 11, 12, 14 and 27 thereof, and that the complainant therein was entitled to the exclusive rights therein and that the defendant therein, The Third Avenue Railroad Company, had infringed upon the exclusive rights of the complainant therein under the said claims and that the complainant therein should recover from the defendant therein, The Third Avenue Railroad Company, the gains, savings and advantages which it had derived by reason of the said infringement and all damages which the complainant therein had sustained by reason thereof, and that a perpetual injunction issue out of, and

under the seal of the said court, enjoining the defendant
9 therein, The Third Avenue Railroad Company, from directly or indirectly using or causing to be used, making or vending, street or other car trucks embodying or imitating the said invention described and secured in said letters patent and the said claims thereof, and from infringing upon the same and upon the rights thereunder of the complainant therein; and thereafter, to wit, on July 30, 1900, a writ of injunction issued out of and from the said court in the said cause, enjoining and restraining the defendant therein, The Third Avenue Railroad Company, its officers, trustees, directors, managers, attorneys, servants and workmen, from directly or indirectly making, vending or using, any street or other car trucks containing or embodying or in any way counterfeiting or imitating the devices and inventions in the said letters patent and in claims Nos. 1, 2, 9, 10, 11, 12, 14 and 27 thereof and from infringing upon the rights thereunder of the complainant therein, and thereafter, on October 1, 1900, the said court entered and filed a decree in the said cause that the complainant therein do recover the sum of one dollar as nominal damages and profits and the sum of $971.49 costs, the complainant therein having waived an accounting. No appeal has been taken from the said decrees.

11. And your orators further aver that on October 13th, 1900, they did, by a joint writing, attested by one or more witnesses, file for record in the Patent Office a disclaimer of claim 17 of the letters patent in suit, No. 478,218, as by the said disclaimer or a duly certified copy thereof, in court to be produced, will fully and at large appear.

12. And your orators pray that the said defendants may be compelled by a decree of this honorable court to account for and pay over unto your orators all such gains and profits as have accrued or arisen to or have been earned or received by the said defend-
10 ants, and all damages your orators have sustained by reason of the said infringement by the said defendants, and that this court may assess said profits and damages and may increase the damages to a sum not exceeding three times the amount thereof.

13. And that the said defendants and their officers, agents, attorneys, servants and workmen, be enjoined and restrained by the order and injunction of this court from directly or indirectly making or causing to be made, using or causing to be used, or vending to others to be used, in any manner, any street or other cars containing or embodying or in any way counterfeiting or imitating any of the said inventions described and secured in the said letters patent, and from infringing upon or violating the said letters patent by the manufacture, use or sale of street or other cars in any way whatever, and that the said defendants may be decreed to pay the costs of this suit, and may be enjoined and restrained as aforesaid during the pendency of this suit, and that your orators may have such other or further relief as to this honorable court shall seem meet and shall be agreeable to equity.

To the end, therefore, that the said defendants may, if they can, show cause why your orators should not have the relief hereby

prayed, and direct and perfect answers make according to the best of their officers', agents', attorneys', clerks', servants' and workingmen's knowledge, remembrance, information and belief, to the several matters hereinbefore set forth, as fully and particularly as if the same were repeated here, paragraph by paragraph, and they thereto severally and specifically interrogated,

May it please your honors to grant to your orators a writ of *subpœna ad respondendum*, issuing out of and under the seal of this honorable court, directed to the said defendants, The Peckham Motor Truck and Wheel Company, Edgar Peckham, W. G. Price, Erwin G. Long, John H. Bickford and Theodore Spore, com-
11 & 12 manding them by a certain day and under a certain penalty, to be and appear before this honorable court, then and there to make answer to this bill of complaint, but not under oath, which is waived, and to perform and abide by such order and decree herein as to this court may seem meet and agreeable to equity.

And your orators will ever pray, etc.

JOHN A. BRILL.
J. G. BRILL CO.
GEORGE MARTIN BRILL, *Pres't.*

Attest: JAMES RAWLE, *Secretary.*

COUNTY OF PHILADELPHIA, }
State of Pennsylvania. }

Before me personally appeared George Martin Brill, who, being duly sworn, says that he is the president of The J. G. Brill Co., one of the parties complainant herein; that the facts hereinabove averred are true, except so far as the same are averred upon information and belief, and as to these, he believes them to be true.

GEORGE MARTIN BRILL.

Sworn to and subscribed before me this 13th day of October, 1900.

HENRY C. ESLING,
[SEAL.] *Notary Public.*

JOSEPH L. LEVY,
Complainants' Sols., 206 *Broadway, N. Y.*
FRANCIS RAWLE,
Of Counsel for Complainants.

13 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants,
against
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY, EDGAR Peckham, W. G. Price, Erwin G. Long, and Theodore Spore, Defendants.

The joint and several answers of the respondents, The Peckham Motor Truck & Wheel Company, Edgar Peckham, W. G. Price, Erwin G. Long, and Theodore Spore, to the bill of complaint of John A. Brill and The J. G. Brill Company, complainants.

The said defendants, now and at all times hereafter, saving and reserving unto themselves all benefit and advantage of exception that may or can be had or taken to the manifold errors, uncertainties, imperfections and insufficiencies in the said bill of complaint contained, for answer thereunto, or unto so much and such parts thereof as they are advised is or are material or necessary for them to make answer unto, answering, say:

First. The said defendants admit that the Peckham Motor
14 Truck & Wheel Company is a corporation duly organized and existing under the laws of the State of New York; that Edgar Peckham, since its organization, has been the president and a director of said company, and that Theodore Spore is the secretary of said company, and that W. G. Price, Erwin G. Long, John H. Bickford and Theodore Spore are directors of said company.

Second. The said defendants have been informed, and admit it to be true, that upon application by one George Martin Brill, of Philadelphia, in the State of Pennsylvania, letters patent of the United States were granted and issued to the said George Martin Brill upon the 5th day of July, 1892, numbered 478,218 for an alleged improvement in car trucks. But the said defendants aver that they do not know, and are not informed, save by said bill of complaint, whether or not said George Martin Brill did properly make application for said patent, and did comply with all the requirements of law and did have said patent issued to him in due form of law. Therefore the said defendants deny the same *pro forma* and leave the complainants to their proof.

Third. The said defendants, further answering, say that they do not know and are not informed, save by said bill of complaint, whether or not said George Martin Brill sold or assigned his right, title and interest in and to said letters patent and alleged invention, described in said letters patent, or any interest therein to the said John A. Brill; or whether or not the said J. G. Brill Company in any manner or by any means became the sole and exclusive licensee under said letters patent; or whether or not said alleged assignment was ever recorded; as is alleged in the third and fourth subdivisions of said bill of complaint. The said defendants therefore

deny the allegations in said third and fourth subdivisions
15 contained, *pro forma*, and leave the complainants to their proof.

Fourth. And said defendants on information and belief deny that by virtue of any such patent, or assignment, or license as mentioned in said bill of complaint, said complainants became or ever were possessed of or vested with any exclusive right to make, use and sell in the United States or elsewhere the alleged invention shown and described in said letters patent.

Fifth. And said defendants, further answering, deny that the said invention so patented to the said George Martin Brill is of great or any utility and value; or that the same has been extensively introduced into public use; or that the public generally or any portion thereof have acquiesced in and acknowledged the complainants' exclusive rights to the same, or any portion thereof; or that the complainants would have made any large gains and profits from the manufacture, use and sale of said invention, but for the wrongful acts of said defendants, or that said complainants ever have been, or are now hindered from making any gains and profits whatever by reason of any wrongful acts whatsoever of said defendants.

Sixth. And said defendants, further answering, deny that the alleged inventions and improvements described and claimed in complainants' patent in suit are important and useful elements in the construction of a useful and efficient street or other car, as is in subdivision 7 of said bill of complaint alleged; and said defendants aver that said alleged inventions and improvements are useless, and detrimental and impotent to effect the purpose or result, which they are alleged to accomplish; and said defendants, upon information and belief, further say that the manufacture and sale of car trucks embodying said alleged inventions or improvements,
16 has been abandoned by said complainants for now about three years because the demerits of said alleged inventions or improvements had become known to those engaged in operating street railway cars, so that cars embodying the same were no longer saleable except to the inexperienced; and that in many cases such car trucks have been discarded and withdrawn from use by those operating street railways who have purchased them from the complainants herein, because of said demerits.

Seventh. And said defendants, further answering, say that said George Martin Brill was not the original and first inventor or discoverer of any material and substantial part of the thing patented, and that the following are the names and residences of the persons who have had knowledge and made use of the thing patented, and of every material and substantial part thereof, prior to the alleged invention thereof by said George Martin Brill, and the names of the places where such use was had and known:

S. G. Steves, of and at Jamestown, New York, and at other places.

Josiah Ashenfelder, of and at Philadelphia, Pennsylvania, and at other places.

Charles T. Schoen and Charles Scott, both of and at Philadelphia, Pennsylvania, and at other places.

Benjamin F. Manier, of and at Troy, New York, and at other places.

John A. Brill, of and at Philadelphia, Pennsylvania, and at other places.

Edgar Peckham, of and at New York, N. Y., and at other places.

Horace G. Bird, of and at Chicago, Illinois, and at other places.

John Taylor, of and at Troy, New York, and at other places.

John H. Bickford, of and at Salem, Massachusetts, and at other places.

17 James T. Robinson, of and at Altoona, Pennsylvania, and at other places.

Moses G. Hubbard, of and at Chicago, Illinois, and at other places.

William S. G. Baker, of and at Baltimore, Maryland, and at other places.

Bernard J. La Mothe and the officers and employees of the New York Rolling Stock Company, of and at New York, N. Y., and at other places, and many others, whose names these defendants have not yet ascertained, but which they crave leave to insert in this answer as soon as ascertained.

Eighth. That the thing patented in said letters patent had been patented and described prior to said George Martin Brill's supposed invention or discovery thereof, in and by the following letters patent granted to the following-named persons, to wit:

U. S. Letters Patent.

No. 64,378, granted to S. G. Steves, April 30, 1867, for car truck.

No. 93,945, granted to Josiah Ashenfelder, Aug. 24, 1869, for car truck.

No. 255,200, granted to Charles T. Schoen, March 21, 1882, for car spring.

No. 357,811, granted to George M. Brill, February 15, 1887, for running gear for railway cars.

No. 409,993, granted to Benjamin F. Manier, Aug. 27, 1889, for car truck.

No. 418,441, granted to John A. Brill, December 31, 1889, for railway car.

No. 419,876, granted to Edgar Peckham, Jan. 21, 1890, for car truck.

No. 432,115, granted to John A. Brill, July 15, 1890, for street car.

No. 436,031, granted to Horace G. Bird, September 9, 1890, for railway car.

18 No. 437,167, granted to John Taylor, September 23, 1890, for car truck.

No. 450,608 granted to John H. Bickford, April 21, 1891, for car truck.

No. 451,952 granted to James T. Robinson, May 12, 1891, for car truck.

No. 457,740 granted to Moses G. Hubbard, August 11, 1891, for car truck.

No. 460,348 granted to William S. G. Baker, September 29, 1891, for car truck.

No. 373,640 granted to John A. Brill, November 22, 1887, for railway car.

No. 402,169 granted to Bernard J. La Mothe, April 30, 1889, for car truck.

And many others which these defendants have not yet ascertained, but which they crave leave to insert in this answer as soon as ascertained.

Ninth. And said defendants, further answering, deny that they have ever contrived to injure said complainants, or to defraud them of any profits, benefits, or advantages whatsoever; and said defendants further deny that they have heretofore at any time manufactured, sold, or used, or that they are now manufacturing, using or selling street or other cars containing the said alleged inventions or improvements described in said letters patent numbered 478,218; and said defendants deny that they ever have in any way, or do in any way infringe said patent.

Tenth. And said defendants, further answering, say they are informed and believe and therefore admit that suit was brought in the circuit court of the United States for the second circuit by John A. Brill against the Third Avenue Railway Company, a corporation operating a street railway in the city of New York, for the alleged infringement of said letters patent, and that said suit was decided in favor of the complainant. But as to exactly what proceedings were had in said suit, defendants are not precisely informed save by the bill of complaint herein; they therefore deny *pro*
19 *forma* the allegations contained in the 10th subdivision of said bill of complaint, except as hereinbefore admitted, and leave the complainants to their proof.

But said defendants allege on information and belief that the said Third Avenue Railway suit was a friendly suit, and that the same was not contested on the part of the defendants with the earnestness of which the facts and the state of the prior art admitted, and that had said suit been so contested the result would have been in defendants' favor.

And the said defendants, further answering the 10th subdivision of the bill of complaint herein, aver on information and belief that the car truck used by the defendants in said Third Avenue Railway case and alleged to be an infringement and which was adjudged to be an infringement therein, was a Chinese copy of the car truck described and claimed in complainants' patent No. 478,218, which was the patent in suit in that and in this case.

And these said defendants deny of their own knowledge that they have ever at any time made, used, or sold any car truck whatsoever in any manner resembling either in structure or in mode of operation the car truck adjudged to be an infringement in said Third Avenue Railway suit, as far as any feature or features described and claimed in the patent here and there in suit are concerned; and that the adjudication in said Third Avenue Railway case has no material bearing whatsoever upon the issue in this present suit.

Eleventh. And said defendants, further answering, say they are not informed except by said bill of complaint as to whether or not said complainants have filed a disclaimer to claim 17 of the patent in suit, as alleged in subdivision 11 of the bill of complaint herein. They therefore deny the same *pro forma*, and leave the complainants to their proof.

20 Twelfth. And said defendants Edgar Peckham, W. G. Price, Erwin G. Long and Theodore Spore, jointly and severally, deny that since the issue of *my*plainants' patent in suit they, or either of them, have individually made, used or sold any car trucks whatever save and except as employees of the defendant, The Peckham Motor Truck & Wheel Company; and said defendants aver that all the car trucks heretofore made and sold by said Peckham Motor Truck & Wheel Company, or by said defendants, Edgar Peckham, W. G. Price, Erwin G. Long and Theodore Spore, as employees of said Peckham Motor Truck & Wheel Company, are, and have been, each and every one of them, very different in construction and in mode of operation from anything described and claimed in said letters patent in suit.

Thirteenth. And said defendants deny all and all manner of unlawful combination and confederacy wherewith they are by said bill charged, without this, that there is any other matter, cause or thing in the said complainants' said bill of complaint contained material or necessary for these defendants to make answer thereto, and not herein and hereby well and sufficiently answered, confessed, traversed and avoided or denied, is not true to the knowledge or belief of these defendants, all which matters and things these defendants are ready and willing to aver, maintain and prove as this honorable court shall direct, and humbly pray to be hence dismissed, with their reasonable costs and charges in this behalf most wrongfully sustained.

PECKHAM MOTOR TRUCK & WHEEL CO.
E. PECKHAM, *Presid't.*
EDGAR PECKHAM.
ERWIN G. LONG.
THEODORE SPORE.
W. S. PRICE.

21 HENRY P. WELLS,
Solicitor for the Defendants.

Office and post-office address, 35–37 Nassau street, borough of Manhattan, New York city.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

Edgar Peckham, W. G. Price, Erwin G. Long and Theodore Spore, being jointly and severally sworn, deposes and says each for himself, that he is one of the defendants named in the foregoing answer by him subscribed; that he has read the same and knows the contents thereof, and that the same is true of his own knowledge except

as to the matters therein stated on information and belief, and that as to those matters he verily believes it to be true.

EDGAR PECKHAM.
ERWIN G. LONG.
THEODORE SPORE.
W. G. PRICE.

Subscribed and sworn to before me this 27th day of November, 1900, as to Edgar Peckham and Erwin G. Long.

[NOTARIAL SEAL.]

W. L. MURRAY,
Notary Public, N. Y. Co.

Subscribed and sworn to before me the 30th day of November, 1900, as to Theodore Spore and W. G. Price.

[NOTARIAL SEAL.]

JNO. J. RILEY,
Notary Public, Ulster Co.

22 *Notice of Filing Bill of Complaint.*

United States Circuit Court, Southern District of New York.

JOHN A. BRILL and J. G. BRILL COMPANY, Complainants,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY, Edgar Peckham, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants.
} In Equity.

To the above defendants and each of them:

Please take notice that a bill of complaint has been this day filed in the above-entitled case in the circuit court of the United States for the southern district of New York, and that upon the said bill of complaint, the affidavits of Joseph P. Livermore, John A. Brill, George Martin Brill, Charles G. Hensley, Charles W. Benjamin, Samuel M. Curwen, Vincent C. Anderson, James Fagan, John N. Akarman, Harvey M. Littell, and exhibits and letters patent No. 478,218, dated July 5, 1892, to George Martin Brill, in said bill referred to, and upon the record in the case of John A. Brill *vs.* The Third Avenue Railroad Company, pending in the United States circuit court for the southern district of New York (copies of which bill, affidavits, exhibits, letters patent, and of said record, are delivered to you herewith), counsel on behalf of complainant
23 will, on the 19th day of October, 1900, at the opening of the court or as soon thereafter as counsel can be heard, make an application to the said court for a preliminary injunction until the final hearing of the said cause, restraining you and each of you the Peckham Motor Truck & Wheel Company, Edgar Peckham, W. G. Price, Erwin G. Long, John H. Bickford and Theodore Spore, and

your officers, agents, attorneys, servants, and workmen, or either of them, from infringing upon claims one (1) and — (2) of the said letters patent referred to above and in the bill of complaint herein.

New York, October 15th, 1900.

JOSEPH L. LEVY,
Solicitor for Complainants, 206 Broadway, Borough of Manhattan, New York City, N. Y.

FRANCIS RAWLE, Esq., *Of Counsel.*

27 Patent in suit "E."

UNITED STATES PATENT OFFICE.

GEORGE MARTIN BRILL, of Philadelphia, Pennsylvania.

Car-truck.

Specification forming part of Letters Patent No. 478,218, dated July 5, 1892.

Application filed June 26, 1891. Serial No. 397,563. (No model.)

To all whom it may concern:

Be it known that I, George Martin Brill, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have made new and useful improvements in car-trucks, of which the following is a specification.

My invention relates to the application of what is known as an "extended spring-base" to trucks for street-cars.

The main object of my invention is to enable a truck of comparatively short wheel-base to be used and to support a car-body upon it, the ends of which overhang the ends of the truck for some distance.

My invention is also intended to overcome in a measure the end vibration or oscillation of the car-body and movable portion of the truck to which the car is secured.

In my structure I mount upon the axle-boxes, either rigidly or flexibly, what are known in the art as "side beams," which singly or when united laterally form a frame which is not affected either by the up-and-down vibrations of the car-body or movable portion of the truck or when the said frame is flexibly supported upon the axle-boxes by the lateral thrust of the axles. At a point where the side beams extend close to the axle-boxes they are secured to axle-box saddles, which saddles have extensions which provide seats for the "axle-box springs," (so-called,) and are also apertured to permit spring-posts to pass through them. Upon these axle-box springs (which, in conjunction with the spring-posts and bracing for the same, form the pedestals for the axle-boxes) rests the upper chord of the truck. The upper part of the spring-post passes through the upper chord, said upper chord resting upon the said axle-box springs, and through the instrumentality of certain bracing to be hereinafter described a movable truck-frame is secured. This upper chord and its accompanying bracing, including the axle-box bracing, form the movable part of the structure, which partakes of the up-and-down movement of the car-body, this motion being ordinarily taken upon the axle-box springs. The upper chord and its bracing are herein termed the "movable portion" of the truck structure, the side beams with or without their lateral connections the "independent frame," and the spiral springs shown in the drawings the "axle-box springs." The side or longitudinal sections

of the upper chord are extended for some distance beyond the axle-boxes, and the side beams are also likewise extended. The upper chord is thus extended for the purpose of giving a firm bottom for the car and through the instrumentality of the supporting devices described further on a greater carrying capacity. The spiral springs, which are supported by or about the axle-boxes, normally take the weight of the car.

Between the extended sections of the upper chord and the side beams I place elliptical springs, which preferably extend longitudinally of the truck and which are so disposed that they will not be brought into action until the weight of the load on the axle-box springs begins to depress said springs abnormally. Then the elliptical springs begin to act and assist the spiral springs in resisting the pressure of the load.

In the present practice, where cars of great carrying capacity are used upon roads having sharp and frequent curves, it is necessary to provide as short a wheel-base as possible in order that the rounding of such curves may be successfully performed, and also to provide an upper chord which will have comparatively a very large extension outwardly from the axle-boxes, in order to more rigidly support the car-body on the truck, by which a greater carrying capacity is obtained. This gives the opportunity to carry greater loads, and under such conditions it has been found necessary to use springs which are stronger than usual to support the car-body on the truck. These heavy springs have their disadvantages, as they were found to be too quick in their action. To overcome this, it has been attempted to use supplemental spiral springs between the extended portion of the spring-base and the car-body—such, for instance, as spiral springs at or upon the axle-boxes and supplemental spiral springs located elsewhere between the extended spring-base and the car-body. This has not been found to work satisfactorily, and an adaptation of my invention consists in making the axle-box springs comparatively weaker and slower than
28 has formerly been done and to place elliptical springs in such a way as to assist the spiral springs in resisting the abnormal depression of the car and in equalizing the end oscillation of the same, the elliptical springs being slower in their action than the spiral springs.

In practice it has also been found that where a very heavy load has been carried on an extended portion of the side beams they have been very apt to break or fracture at or near the axle-boxes, and this very often occurs where the sections of the side beams are united together at the axle-boxes by means of a saddle which straddles the axle-box, the saddles splitting over the axle-boxes.

A part of my present invention is to provide a truss or brace for the purpose of supporting the extended ends of the side beam.

My invention also consists in the details of the truck structure and combination of parts hereinafter set forth.

(Here follow diagrams marked pp. 24 & 26.)

(No Model.) 2 Sheets—Sheet 1

G. M. BRILL.

CAR TRUCK.

No. 478,218. Patented July 5, 1892.

No. 444 Brill v. Pratt & C. p. 24

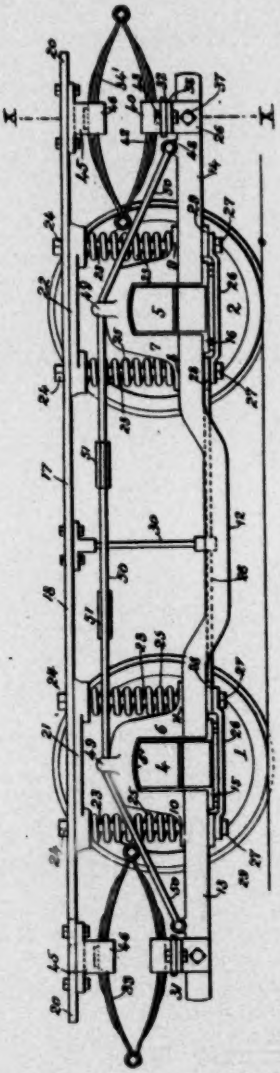


Fig. 1.

ATTEST:
M. C. Stoddard
A. E. Dunbar

INVENTOR:
George Martin Brill
by Joseph P. Ryan
Attorney

(No Model.) 2 Sheets—Sheet 2.

G. M. BRILL.

CAR TRUCK.

No. 478,218. Patented July 5, 1892.

Fig. 2.

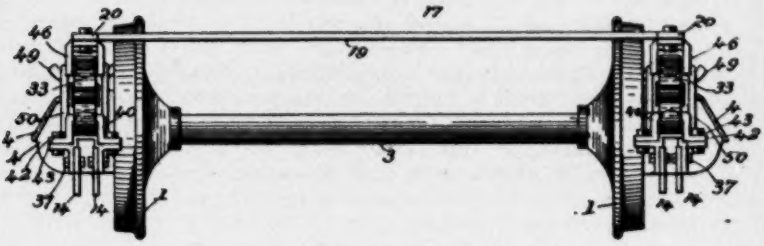
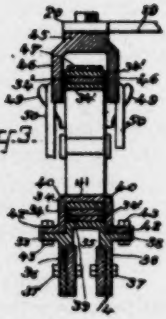


Fig. 3.



No 444 Brill & Peckham p. 26

ATTEST:
H. G. Dunlap
M. E. Stoddard

INVENTOR:
George Martin Brill
by Joseph R. Lacey
Attorney

In the drawings, figure 1 is a side elevation of my truck; Fig. 2, an end elevation of the same from either end; Fig. 3, a vertical section taken on the line *x x*, Fig. 1.

Similar numerals of reference refer to like parts throughout the several views.

In the drawings, 1 and 2 are the wheels; 3, the axles, (but one is shown in full,) and 4 5 the axle-boxes.

6 and 7 are saddles supported on the axle-boxes either rigidly, flexibly, or in such a manner as to be capable of a movement in the line of the axle. If desired, an elastic cushion of rubber or such like material 5′ can be placed between the saddles and axle-boxes. The saddles are provided with extensions 8 9 10 11, which provide supports for what I have termed the "axle-box springs." The central longitudinal sections 12 of the side beams are secured at their ends to the legs 8 and 11 of the axle-box saddles at each side thereof, and the outwardly-extending sections which form the base or bed of the extended spring-base are formed of the sections 13 and 14, the ends of which are secured to the legs 9 and 10 of the saddles on both sides thereof. These extensions 13 and 14 extend some distance out from the axle-boxes—in fact, to an extent much greater than that ordinarily resorted to. The lower ends of the saddles 6 and 7 are closed by cross-bars 15 and 16, bolted or otherwise secured thereto. The side beams may be united laterally to form an integral frame; but this does not enter into the present invention to any material extent, and so I have not shown them as united, for the side beams act herein as an independent frame or support.

This truck is to be distinguished from trucks of the ordinary structure by reason of the fact that it comprises two distinct parts—one part comprising (apart from the running-gear) the side beams or frame and another part comprising the upper chord with its bracing and spring-posts. The first I shall term the "stationary frame," (although it is not stationary in the true sense of the word, because there is a play of the axles in the boxes and there may be a movement of the side beams,) because it is not affected by the movement of the car-body to any appreciable extent, and the other the "movable portion" of the structure, for the reason that it partakes of the up-and-downward movement of the car-body and all its movements on its supporting springs.

The movable structure comprises the following parts: The upper chord upon which the body of the car rests is shown at 17. It is rectangular in form, preferably, and has longitudinal side sections 18 and lateral end sections 19, and it may be formed or constructed in the usual manner and is provided with extensions 20. Spring-plates 21 22 are secured to the upper chord in any desirable manner. 23 are spring-posts which extend through the legs of the saddles downwardly and upwardly through the spring-plates and upper chord, at which end they are provided with bolts 24. 25 are what I call the "axle-box springs," which surround the spring-posts and which find seats at one end in the spring-plates 21 22 and at their lower ends in the legs of the axle-box saddles. 26 are cross-bars uniting the ends of the spring-posts which pass through them,

the said cross-bars being secured by means of the bolts 27. The inner spring-posts are connected together by a longitudinal truss-rod 28, through which the spring-posts pass, the ends of said truss-rod being located between the bottom of the saddles and the cross-bars 26. The cross-bars 26 are squared on the spring-posts by a block 29, inserted between them and the bottom of the saddles. A perpendicular truss-rod 30, located between the inner spring-posts, is secured at one end to the upper chord and at the other to the longitudinal truss-rod 28. The foregoing parts comprise what I term the "movable portion" of the truck structure, only some of the details thereof are immaterial. As has been before stated, the upper chord is extended outwardly from the axles to a more than ordinary degree, and this is intended for the purpose of giving a firm bottom for the car-body and a greater carrying capacity for the truck. It is therefore clear that more than the ordinary load is intended to be carried on this structure, and for this reason more than ordinary devices for spring supporting the car-body are necessary. To this end I supplement the axle-box springs by placing elliptical springs of slower action between the extended portions or sections of the side beams and upper chord and so arrange them in respect to each other that the elliptical springs will not come into play until after the axle-box springs have begun to compress, and the action of the spirals in lifting the car-body is continued after the elliptical springs have ceased to act. The devices which secure the elliptical springs between the side beams and the upper chord are devised to permit one end of the upper chord to approach
29 the side beams and the other end to be elevated, as will occur in the act of oscillation, one set of elliptical springs being compressed while the other remains in its normal condition.

Near the outer ends of the sections 13 14 of the side beams I locate straps 31 32, in which the elliptical springs 33 34′ (constructed in any desired manner) are secured. The construction of the straps is best seen in Fig. 3 in section. They are preferably composite, as shown, being formed of two saddles 34 35, one straddling the side beams and upon which the spring 34′ rests, the other being secured to the lower saddle and straddling the spring. The lower saddle 35 has legs 36, by means of which it is secured to the side beams by the bolts 37. It also has projections 38 and a flat top 39, and upon this flat top the elliptical springs rest. The upper saddle comprises the walls 40, top 41, and lugs 42, the lugs 42 being secured to the lugs 38 of the lower saddles by means of the bolts 43. A plate may be inserted between the top of the upper saddle to rigidly secure the spring in place.

From the foregoing structure it will be seen that the springs are rigidly secured to the side beams. They, however, are not secured rigidly to the upper chord, so that any upward movement of it will not affect them. The upper chord, however, is provided with means for retaining the upper half of the springs perpendicular to the side beams.

Secured to the upper chord preferably, upon one of the extended ends 20, is a cap 45, having the downwardly-extending legs 46.

The cap is interiorly chambered, so as to permit the elliptical spring 34′ to move within it, the legs 46 acting to keep the said spring perpendicular, while space is left between the inner top portion of the cap and the top of the spring to permit the upper chord to be depressed some distance before the cap begins to depress the elliptical spring. A plate 47 is attached to the top of the spring to prevent the cap wearing on the spring at this point.

Under conditions which prevail in trucks of this structure it is very important that the extended ends of the side beams be properly braced in order to sustain the heavy load carried upon them. This I accomplish in the following manner: The side beams are provided with lugs 48 near to the end thereof, and the saddles 6 and 7 are provided with outwardly-extending lugs 49 on the inner and outer plates of the saddles. These lugs support the longitudinal and downwardly-extending brace 50, which at its ends are secured to the lugs 48 on the side beams, and which is preferably provided with a turnbuckle 51, located between the said lugs. I do not limit myself to the use of the two braces on each side, as one may be found to be sufficient. It will be seen that this method of bracing gives a greater carrying capacity to the ends of the side beams, permitting them to carry great loads without fracturing the saddles, upon which in this case a considerable portion of the strain would come, when by reason of excessive loading of the car body, and consequent depression of the springs, a portion of this action would be taken on the springs supported on the ends of the side beams. When the excessive loading is not present, the springs on the ends of the side beams act as buffers, the ordinary action of the car-body on the truck being taken up by *by* the spiral springs.

The brace 50 can be very advantageously used when what is known as a "gearless motor" is used. In this style of motor the armature is secured directly upon the axle and the body of the motor extends out from the axle, sometimes on either side, but usually on both. When it extends outwardly, the weight of the same can be carried on the extended sections of the side beams, the brace then coming into play to strengthen them and relieve the axle-box saddles and the like from the excess strain.

In case it is not found desirable or for the purpose of cheapening the structure or for any other reason the upper chord could be omitted and the spring-plates 21 22, truss-rod 30, caps 45, and spring-posts could be secured to the sills or frame of the car-body without departing from the nature of my invention.

Having thus described my invention, what I claim, and desire to secure by letters patent, is—

1. In a motor-truck, the combination, with a stationary frame supported upon the running-gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame, substantially as described.

2. In a truck, a spring-supporting frame supported upon the run-

ning-gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, substantially as described.

3. In a truck, a stationary frame supported upon the running-gear of said truck having sections extending outwardly from the axles, a movable frame carried by said truck, springs located between the stationary and movable frames and between the extended sections of both frames, and a brace for said extended sections of the stationary frame, secured to said extended sections and supported upon the running-gear of the truck, substantially as described.

4. In a truck, a stationary frame supported on its running-gear by saddles and having sections extending outwardly from the axles, a movable frame with extending sections, springs located between the stationary and movable frames and between their extended sections, and a brace for said extended sections of the stationary frame, secured to such sections and supported upon the said saddles, substantially as described.

5. In a truck, a stationary frame having sections extending outwardly from the axles, saddles secured to stationary frame and supported on the axle boxes, a movable frame having outwardly-extending sections, spiral springs located between the saddles and the movable frame, elliptical springs located between the movable frame and the extended sections of the stationary frame, and a brace for said extended sections, supported upon the saddles, the ends of which are secured to said extended sections, substantially as described.

6. A spring-supporting frame for a truck, comprising the saddles adapted to straddle the axle-boxes, longitudinally-extending beams extending between and secured to said saddles, additional beams secured to and extending outwardly from said saddles, and a brace supported upon said saddles and secured at its outer ends to the outwardly-extending beams, substantially as described.

7. A spring-supporting frame for a truck, comprising the saddles 6 and 7, having projections for supporting the truck-springs, outwardly-extending lugs 49 on the saddles, central sections 12 of the side beams, secured to the saddles, outwardly-extending sections 13 14 of the side beams, secured to the said saddles, cross-bars 15 16, uniting the ends of the side-beam sections, lugs 48 on the sections 13 14 of the side beams, a brace 50, secured to said lugs 48 and extending over the lugs 49 on the saddles, and a turnbuckle 51 for tightening said brace, substantially as described.

8. In a truck, a spring-supporting frame supported upon the running-gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, and braces for the extended ends of the spring-supporting frame, secured thereto and resting on the saddles, substantially as described.

9. In a truck, the combination of two frames, one stationary and supported upon the running-gear, the other movable, and a plurality of springs located between the stationary and movable frames, some of said series being adapted to be compressed by the downward movement of said movable frame subsequent to the compression of other of the series, substantially as described.

10. In a truck, the combination of two frames, one stationary and supported upon the running-gear of the truck, the other adapted to be moved toward said stationary frame, springs located between the ends of both frames, and springs otherwise disposed between the two frames, the end springs being adapted to be compressed subsequent to the compression of the other springs, substantially as described.

11. In a truck, a stationary spring-supporting frame having at its ends elliptical springs rigidly secured thereto, in combination with a movable frame supported by springs other than said elliptical springs, said movable frame being provided with devices for engaging said elliptical springs, the elliptical springs being adapted to be brought into action subsequent to the springs supporting the movable frame, substantially as described.

12. In a truck, a spring-supporting stationary frame mounted on the running-gear of said truck, said frame being composed of a plurality of bars contiguously disposed, a saddle secured to the outer sections of said bars, an elliptical spring the lower section of which rests upon said saddle, and a second saddle disposed over the first and the spring and secured to the first saddle, a movable frame and a spring supported upon the stationary frame and having devices for guiding the upper section of the elliptical spring, substantially as described.

13. In a truck, the combination of two frames, the one stationary and supported upon the running-gear, the other movable, said stationary frame having the contiguously-disposed beams 14, a saddle 35, closed at the top and having legs 36 secured to the beams 14 and projections 38, a second saddle closed at the top and secured to the projections 38, an elliptical spring 34′, held between the two saddles, and a cap 45, having downwardly-extending legs 46 secured to the movable frame, the ends of which engage the upper section of said elliptical spring, substantially as described.

14. A truck having running-gear and a frame, and spiral springs for supporting the car-body, supplemented by elliptical springs adapted to coact therewith, the spirals being adapted to be compressed prior to the ellipticals, substantially as described.

15. A truck having side beams disposed about the axle-boxes and a brace extending between the axle-boxes and secured to the side beams, substantially as described.

16. A truck having side beams disposed about the axle-boxes and a brace supported upon or above the axle-boxes and secured to the side beams, substantially as described.

17. The upper chord having the depending cap 45, with downwardly-extending legs 46, and elliptical springs held on the side beams, adapted to move in said cap, substantially as described.

18. The saddle 35, having the legs 36 secured to the side beams

and projections 38, and the saddle 34, provided with projections 42, secured to like parts on the saddle 35, substantially as described.

19. The side beams on the axle-boxes, axle-box saddles 6 7, having the lugs or projections 49 above the axle-boxes, and a brace 31 supported thereon and secured to the side beams, substantially as described.

20. A truck having side beams disposed about the axle-boxes, a brace supported upon or above the axle-boxes, extending between them and secured thereto, and means for tightening the said brace, substantially as described.

21. The side beams intermitted about the axle-boxes, saddles for supporting the side beams on the axle-boxes, and a brace supported on the saddles above the side beams and secured to the side beams, substantially as described.

22. The saddles 6 7, supported on the axle-boxes, lugs 49 on the saddles, side-beam sections 12 13 14, secured to the saddles, and a brace 50, supported on the lugs 49 and secured to the sections 13 14 of the side beams, substantially as described.

23. A frame for a truck, comprising the saddles 6 7, having projections for supporting the truck-springs, lugs 49 on the saddles, central side-beam sections 12, secured to the saddles, outwardly-extending side-beam sections 13 14, secured to the saddles, and a brace 50, secured to the sections 13 14 and supported on the lugs 49 of the saddles, substantially as described.

24. A frame for a truck, comprising the saddles 6 7, having projections for supporting the truck-springs, lugs 49 on the saddles, central side-beam sections 12, secured to the saddles, outwardly-extending side-beam sections 13 14, secured to the saddles, a brace 50, secured to the side-beam sections 13 14 and supported on the lugs 49, and a turnbuckle 51 for tightening said brace, substantially as described.

25. The saddles 6 7, straddling the axle-boxes and open below the same, lugs 49 on the saddles, side-beam sections 12 13 14, secured to the saddles, and a brace 50, secured to the side-beam sections 13 14 and supported on the lugs 49, substantially as described.

26. The saddle 35, secured to the side beams, the saddle 40, secured to the saddle 35, and an upwardly-extending elliptical spring held between the two saddles, substantially as described.

27. In a truck, a stationary spring-supporting frame mounted on the running-gear of said truck, having outwardly-extending sections and elliptical springs secured to the stationary frame, and a movable-frame spring supported upon the said stationary frame, having a device for guiding the upper portion of the elliptical springs, substantially as described.

28. Side beams supported upon the running-gear and extending past the same and a brace detachably supported upon the running-gear or a portion thereof and secured to the extended ends to the side beams, substantially as described.

Signed at the city and State of New York this 13th day of June, 1891.

GEORGE MARTIN BRILL.

Witnesses:
R. S. REED.
L. R. RANDOLF.

32 478,218. GEORGE MARTIN BRILL, Philadelphia, Pa.

Improvement in Car-trucks.

Patent dated July 5, 1892. Disclaimer filed October 13, 1900, by John A. Brill, assignee, and the J. G. Brill Company, licensee.

Disclaimer in letters patent No. 478,218.

Enter their disclaimer—

"Of claim seventeen (17) thereof, which is in the following words:

"'17. The upper chord having the depending cap 45, with downwardly-extending legs 46, and elliptical springs held on the side beams, adapted to move in said cap, substantially as described.'" (Official Gazette, October 23, 1900.)

Correction in letters patent No. 478,218.

It is hereby certified that in letters patent No. 478,218, granted July 5, 1892, upon the application of George Martin Brill, of Philadelphia, Pennsylvania, for an improvement in "Car-trucks," an error appears in the printed specification requiring correction, as follows: In line 90, page 4, the word and letter "and a" should *should* be stricken out; and that the said letters patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 5th day of April, A. D., 1898.

[SEAL.] WEBSTER DAVIS,
Assistant Secretary of the Interior.

Countersigned:
C. H. DUELL,
Commissioner of Patents.

35 UNITED STATES PATENT OFFICE.

BENJAMIN F. MANIER, of Troy, New York.

Car-truck.

Specification forming part of Letters Patent No. 409,993, dated August 27, 1889.

Application filed June 21, 1889. Serial No. 315,075. (No model.)

To all whom it may concern:

Be it known that I, Benjamin F. Manier, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful improvements in car-trucks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, in which—

(Here follow diagrams marked pp. 33 and 34.)

Figure 1 is a side view of my improved truck for electric motors and tram or street cars. Fig. 2 is a plan view of the same. Fig. 3 is a detail sectional side view showing a modification of springs. Fig. 4 is a detail vertical sectional view through a portion of the truck on line *x x*, Fig. 2.

This invention is an improvement in trucks for street or tram cars, and is especially designed for use with electric motors. Its objects are to so construct the truck that open or summer car bodies or closed "box" bodies can be readily mounted thereon interchangeably, and wherein the body will be spring-cushioned on the truck independently of the cushioned mountings of the truck on the axles, the body-springs being exterior or outside of the car-axles at the ends of the truck, so that the rocking or oscillating movement of the body usual in ordinary cars will be obviated. Further objects are to so construct the truck that the motors will be readily accessible, and will be partially equipoised on the truck; and to these ends the invention consists in the novel construction and arrangement of parts of and in the truck, as will be hereinafter clearly described and claimed.

Referring by letters to the drawings, A designates the truck-frame, rectangular in plan, and composed of the compound upper and lower side bars A′ A^2, suitably connected, and the transverse connecting-bars D D and E. Each compound bar A′ A^2 consists of two flat metal bars set on edge and secured together by lateral bolts, as shown, the bars being separated, however, by interposed blocks or the ends of vertical uprights B B, which are securely bolted to the bars A′ A^2, as shown, and keep said bars in proper relative position. The compound bars as thus constructed are light and very strong. By set-

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(No Model.) 2 Sheets—Sheet 1.

B. F. MANIER.

CAR TRUCK.

No. 409,993. Patented Aug. 27, 1889.

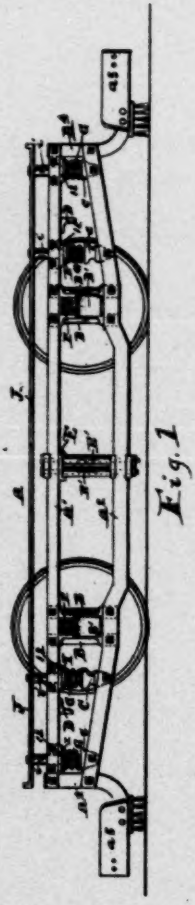

Fig. 1.

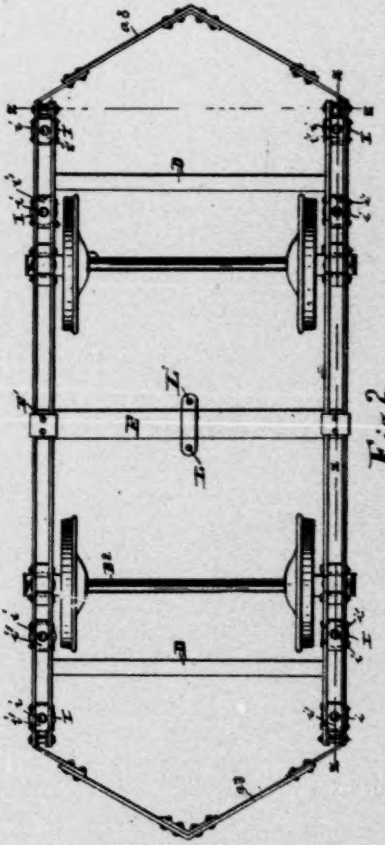

Fig. 2.

Witnesses:
P. L. Brooks
A. E. Savell.

Inventor:
B. F. Manier
By his Attorney T. H. Alvord

20800

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Bill
vs.
Pittsburgh
} p. 34

(No Model.) 2 Sheets—Sheet 2.

B. F. MANIER.

CAR TRUCK.

No. 409,993. Patented Aug. 27, 1889.

Fig. 4.

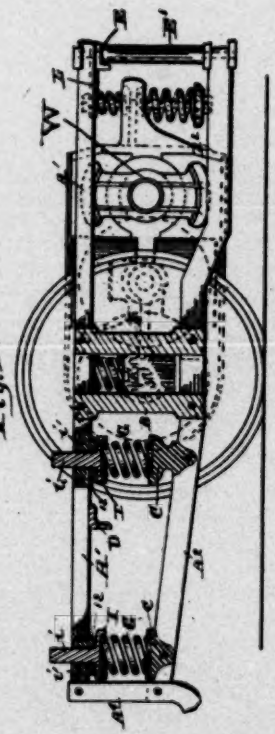
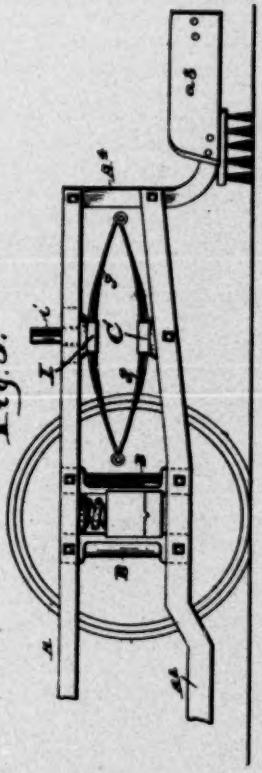


Fig. 3.



Witnesses:
P. L. Brooks.
A. E. Towell.

Inventor
B. F. Manier
By his Attorney. T. N. Alexander

ting the flat metal bars edgewise they will withstand and support a great vertical strain or weight superimposed thereon, and by arranging them in pairs and staying them together laterally by the connecting bolts, as described, lateral flexing thereof is prevented. The upper bar A′ is straight, but the lower bar A^2 is depressed at center between the pairs of uprights B B, said uprights forming guides, between which move the journal-boxes B′ of the car-axles B^2, which are of ordinary construction. There are two axles to each truck, which are of the four-wheel class. F F designate coiled springs interposed between the boxes B′ and top bars A′, by which the truck is spring-cushioned and suspended on the axles. The bars D D are made of L angle-iron and bar E of U angle-iron, and all are securely bolted to the upper bars A′. The ends of bars A′ A^2 are connected by vertical pieces A^4, and on the ends of the truck may be mounted fenders a^3, as shown.

On the lower bar A^2, between the uprights B B and the ends of the truck, are mounted stirrup-blocks C C, on which are supported springs, and upon these springs rest caps I I, having upstanding shanks *i*, that rise between the members of bar A′ and project above said bar. The shanks *i* preferably move through openings in blocks *i*′, secured to bars A′, and are guided thereby. Upon said shanks *i* are supported horizontal bars J, which are bolted thereto, and to said bars J the car-bodies can be readily fastened in any convenient manner, and car-bodies of different styles can thus be readily mounted on the same truck and as readily removed simply by unfastening bars J from the body or truck, as is obvious. Preferably I employ spiral springs G, as shown in Fig. 1, for supporting caps I; but, if desired, the elliptic springs *g* could be employed, as shown in Fig. 3; or other forms of springs may be used, as found convenient and desirable, the particular form of spring not forming part of present invention.

It will be observed that if a car be mounted on bars J, as described, the weight thereof is transferred to the ends of the truck
36 exterior to or beyond the axles, and consequently nearly beneath the ends of the body, and thereby the tendency of the body to rock or tilt is overcome. This oscillation of the body, which is very unpleasant, is noticeable in cars mounted on trucks wherein the body-springs are on both sides of the axles and near the center of the truck and body. This mounting of the body-springs forward of the axles I consider a special feature of my truck. The bars A′ A^2 are connected at center by brace-bolts E′ E′. Bar E is midway between the axles and in the center of the truck, and the motor-armatures W are partly suspended thereon at points L L and partly on the axles. The weight of the motors bearing on the center of the truck is partially balanced by the weight of the body on the ends thereof, so that a smooth and steady riding of the truck is obtained, as the side frames thereof are about equally loaded between and forward of the axles. The movement of the body of the truck-frame is entirely independent of the movement of the truck-frames on the car-axles; but the weight of both car body and truck is transferred to the axles through springs F F, and thus a complete

spring-suspension of the body is obtained. The caps I I are preferably provided with cushioning-pads 12 12, to prevent jar and noise when the caps ride upward into contact with the under side of bar A′.

Having thus fully described my invention, I claim—

1. The combination, in a truck-frame, of the compound side bars A′ A^2, composed of flat metal bars arranged vertically edgewise in pairs, and bolted together substantially as described, and the vertical uprights connecting said bars and the transverse connecting-bars, substantially as specified.

2. The combination, in a truck, of the side frames composed of side bars A′ A^2, each consisting of two parallel flat metal bars set edgewise and connected substantially as described, the uprights B B, and the transverse connecting-bars D D and E, all substantially as and for the purpose set forth.

3. The combination of the truck-frame with the body-supporting springs and the vertically-movable caps I I, resting on said springs and carrying the body, all substantially as specified.

4. The combination of the side bars A′ A^2, the springs supported on bar A^2 exterior to the axles, the caps I, having shanks *i* playing through bar A′, and the bar F, supported on said shanks, substantially as specified.

5. The combination of the truck-frame composed of side bars A′ A^2, uprights B B, and the transverse connecting-bars D D and E, with the car-axles, boxes B′, and springs F F, all substantially as set forth.

6. The combination of the truck-frame having compound side bars A′ A^2 with the stirrup-blocks C, springs G, caps I, and bars F, all as and for the purpose set forth.

7. The combination of the truck-frame composed of side bars A′ A^2, the latter being depressed at center, the uprights B B, and transverse bars D D and E, and bolts E′, with the car-axle boxes playing between uprights B B, the springs F F, and the car-body-sustaining springs arranged on the truck exterior to the axles, substantially as and for the purposes set forth.

8. The herein-described truck, consisting of the side frames composed of compound bars A′ A^2, uprights B B, and the transverse braces D D and E, brace-bolts E′, the stirrup-blocks C C, springs thereon, the vertically-movable caps I, having shanks *i* playing through bar A′, and the body-bars J, all constructed and arranged as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

BENJAMIN F. MANIER.

Witnesses:
JOHN TAYLOR.
E. A. STANLEY.

20808

Rail
Peckham Co
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(No Model.) 2 Sheets—Sheet 1.

E. PECKHAM.

CAR TRUCK.

No. 419,876. Patented Jan. 21, 1890.

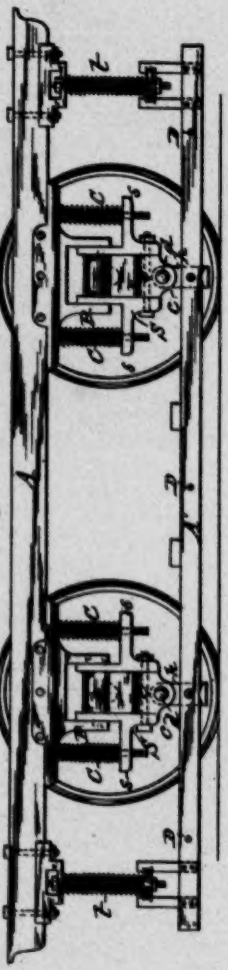


Fig. 1

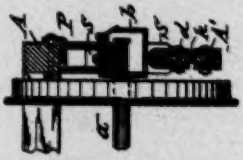


Fig. 3

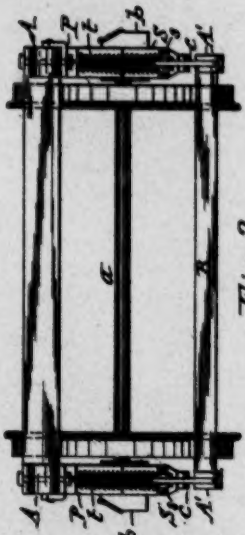


Fig. 2

WITNESSES:

J. J. Laass.

H. M. Seamans

INVENTOR

Edgar Peckham

BY

Church, Lacey & Bell

ATTORNEYS

No. VVV.
Built
Peckham
p. 38

(No Model.)

2 Sheets—Sheet 2.

E. PECKHAM.

CAR TRUCK.

No. 419,876.

Patented Jan. 21, 1890.

Fig. 6

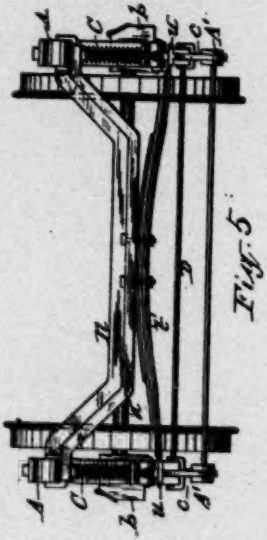


Fig. 5

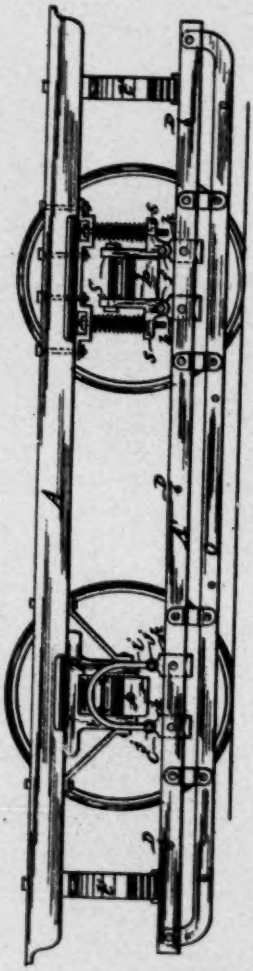


Fig. 4

WITNESSES:

J. J. Yaass.

H. M. Seamans

INVENTOR

Edgar Peckham

BY

Duell, Lawrence & Bell

ATTORNEYS

39 UNITED STATES PATENT OFFICE.

EDGAR PECKHAM, of New York, N. Y.

Car-truck.

Specification forming part of Letters Patent No. 419,876, dated January 21, 1890.

Application filed September 2, 1889. Serial No. 322,646. (No model.)

To all whom it may concern:

Be it known that I, Edgar Peckham, of New York, in the county of New York, in the State of New York, have invented new and useful improvements in car-trucks, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in a novel construction of a car-truck designed to afford spring-supports under the end portions of the car-body as well as at the axles, and thus support said body nearly throughout its length and also obviate in a great measure the vertical oscillation of the same when moving over an undulating track.

The invention is fully illustrated in the annexed drawings, in which—

(Here follow diagrams marked pp. 37 & 38.)

Figure 1 is a side elevation of my improved car-truck. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical transverse section through the axle and coupling. Fig. 4 is a side elevation of a modification of my improved car-truck. Fig. 5 is an end elevation of the same, and Fig. 6 is a side view of a further modification of the means for suspending the longitudinal beams of the truck from the axles.

Similar letters of reference indicate corresponding parts.

A and A′ represent, respectively, the upper and lower longitudinal beams of the truck. The upper beams A may be a portion of the car-body. Said latter beams are supported upon the axles *a a* by saddles S S, mounted on the journal-boxes *b b*, and, if desired, they may be guided vertically between the usual jaws of pedestals P P, secured to the upper beams A A. I prefer to form the said saddles with arms *s s*, projecting horizontally from the front and rear sides thereof, and upon these arms I mount springs C C, which support the beams A A over opposite sides of the axles. The lower beams A′ A′ are preferably each formed of two stout steel bars placed edgewise vertically side by side with a space between them, and filling-blocks interposed at suitable intervals and firmly united by bolts or rivets passing through the bar and filling-blocks in the usual and well-known manner. Cross-beams B B and tie-rods D D

fasten the two beams A′ A′ to each other. These beams, as well as the upper beams A A, are extended so as to bring their end portions under the end portions of the car-body, and the lower beams A′ A′, I support under the axles *a a* by pivoted couplings *c c*, hung on the journal-boxes or saddles riding on the axles, the pivots of the couplings being parallel with the axles, and thus allowing the said beams a limited longitudinal play.

I do not limit myself to any specific construction of the said couplings, inasmuch as it is susceptible of many modifications without departing from the spirit of my invention.

Several forms of the said couplings are illustrated in the annexed drawings.

Fig 1 shows the coupling of the form of a strap *h*, pivotally connected to the beam A′ and suspended from a pin *d*, which is parallel with the axle and passes through a hanger *e*, pivoted to the lower ends of the saddle at right angles to the axle, which hanger permits a lateral movement of the beam A′. Fig. 4 shows two forms of the aforesaid couplings. At the right-hand portion of said figure the saddle S is provided with two eyes *f f*, and from pins inserted in said eyes are suspended two straps *h h*, pivotally connected to the beam A′. The left-hand portion of Fig. 4 shows the coupling *c* as consisting of a yoke *i*, hung from the top of the journal-box *b* and terminating with two eyes *j j*, to which are connected the straps *h h*.

Fig. 6 of the drawings shows the coupling *c* of the form of a link *l*, suspended from the before-described hanger *e* and having its lower end coupled to the strap *h*, carrying the beam A′.

Between the end portions of the upper and lower beams A A′, I interpose suitable springs, which may be either of the spiral species, as shown at *t t*, or of the so-called "semi-elliptic" form, as shown at *t′*, in Figs. 4 and 5 of the drawings, which latter form of spring is disposed crosswise of the truck and rests with its ends in suitable shoes *u u*, secured to the top of the beams A′ A′, and upon the central portion of the spring is mounted a truss *n*, which is extended across the under side of car-body and firmly secured thereto.

40 The beams A′ A′, I preferably stiffen longitudinally by a suitable truss O, extending the length thereof, as shown in Fig. 4 of the drawings.

Having described my invention, what I claim as new, and desire to secure by letters patent, is—

1. A car-truck comprising saddles mounted on the axles, longitudinal beams supported under the axles by pivoted couplings hung on said saddles, and springs interposed between said beams and car-body, substantially as set forth and shown.

2. A car-truck comprising saddles mounted on the axles, longitudinal beams supported under the axles by pivoted couplings hung on said saddles, and the ends of the beams extending under the end portions of the car-body, and springs interposed between the aforesaid beams and car-body at the central and end portions thereof, substantially as described and shown.

3. A car-truck comprising longitudinal beams under the axles and supported thereon, longitudinal beams above the axles and

movable toward and from the lower beams, pedestals on said movable upper beams embracing the journal-boxes, and springs interposed between said beams, substantially as described and shown.

4. In combination with the car-axles, longitudinal beams above the axles and supported elastically vertically upon the same, saddles hung on the axles, longitudinal beams suspended from said saddles, and springs interposed between the said elastically-supported beams and suspended beams, as set forth.

5. In combination with the car-axles, longitudinal beams above the axles and supported elastically vertically upon the same, saddles hung on the axles, longitudinal beams suspended from said saddles by pivoted couplings, and springs interposed between the said upper and lower beams, as set forth.

6. In combination with the car-axles, longitudinal beams above the axles and supported elastically vertically upon the same, saddles hung on the axles, hangers pivoted to the saddles at right angles to the axles, longitudinal beams connected to said hangers, and springs interposed between the said upper and lower longitudinal beams, as set forth.

7. In combination with the car-axles, longitudinal beams above the axles and supported elastically vertically upon the same, saddles hung on the axles, hangers pivoted to the saddles at right angles to the axles, longitudinal beams connected to the hangers by hinge-joints parallel with the axles, and springs interposed between the said upper and lower longitudinal beams, substantially as described and shown.

8. In combination with the car-axles and saddles hung thereon, a truck-frame having longitudinal beams above the axle and elastically supported thereon and extending forward and rearward therefrom, saddles hung on the axles, hangers pivoted to the saddles at right angles to the axles, longitudinal beams of the length of the aforesaid upper beams suspended from the hangers by pivotal connections axially parallel with the axles, and springs interposed between the aforesaid upper and lower longitudinal beams at the end portions thereof, substantially as described and shown.

9. The combination, with the longitudinal beam A′, of a truss extending lengthwise thereof and secured thereto to stiffen the same, as set forth.

In testimony whereof I have hereunto signed my name this 24th day of August, 1889.

EDGAR PECKHAM. [L. S.]

Witnesses:
FRANK H. EDMUNDS.
EMANUEL BOTSCHON.

41 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS.

STATE OF VIRGINIA, *County of Bath*, } ss:

John A. Brill, being duly sworn according to law, deposes and says:

I am one of the complainants in the above-entitled case. I have read the bill of complaint therein. The facts therein are true, except as to those matters which are therein averred upon information and belief, and as to those matters, I verily believe them to be true.

I have been actively engaged in the building of street railway cars since 1870, with the successive firms of J. G. Brill & Son, and J. G. Brill and Company, and with the J. G. Brill Company, the successor to said firms; with the latter since its organization in 1887. I have been very closely engaged in the manufacturing parts of the business and I have frequently visited the various railway companies and have come into contact constantly with the officials of street railway companies all over the United States. I have been very familiar with the rise and development of the art of
42 propelling cars by electricity. The independent rigid truck now in universal use was invented and introduced by me. I have made a large number of inventions in that art and have taken out a large number of letters patent of the United States thereupon.

The introduction of independent trucks under street railway cars in this country began in 1887. Such trucks took the place of the old horse-car running gear. They were not at first accepted with entire favor by the street railway officers, and their introduction was rather gradual. As electricity gradually came into use, longer car bodies began to be required by the railway companies. The old horse-car bodies were not over sixteen feet in length, and these were at first utilized in changing the equipments to electricity. When new electric cars were brought into use, the car bodies were from 18 to 22 feet in length. It was not possible to increase the wheel base of the truck, that is, the distance between wheel centres, because trucks with long wheel bases would not be able to pass around the short radius curves in narrow city streets. The old horse-car bodies had a considerable overhang at each end, and the longer car bodies introduced on electric cars had a still greater overhang. This overhang at each end of the car body with 16-foot car bodies as well as with the longer car bodies, resulted in very serious oscillations of the car bodies when in motion. This oscillation was in the nature of a galloping motion, the car becoming alternately depressed and raised at either end. The joints between the rails were the chief cause of it, and it was aggravated when the rails were laid with the

joints opposite to each other. The rails were formerly laid with a slight space between the ends. These ends would become more or less depressed by wear, and a car in passing rapidly over the depression, got this rocking or galloping motion. It was aggravated when the tracks got out of repair, and was also greatly increased
43 when the car was run at higher rates of speed. Again, the galloping motion of the car pounded the rails at the joints, and made the track conditions still more likely to produce the galloping motion than before. This galloping motion was also brought about where there were sudden changes of the grade.

The effect of it in the operation of the road was very serious. The old style of tracks, with the rails laid on parallel stringers, had a life of hardly more than three years under these conditions, owing to the pounding of the single-truck cars. It became necessary to relay the rails with from 90 to 110 lb. rails to the yard, whereas on steam railroads the average weight of the rails was from 50 to 100 pounds to the yard. The effect on the truck of the oscillation or galloping was to bring about strains upon, and to loosen the component parts of, the truck and decrease its life and service; and the same was true of the car bodies. Oscillation was also a source of great discomfort to the passengers, and on open cars there was an added element of danger to the passengers, it being well known that there have been instances where passengers have been thrown from their seats by the motion of the car. To make electric propulsion profitable, it was necessary to increase the speed of the cars in order to increase their daily mileage. The increase of speed, as above stated, greatly increased the oscillation and made it still more dangerous. When a car began to oscillate, it was necessary to reduce the speed in order to steady the car. There was also a constant danger of derailment in running a car while under this galloping motion. I have heard of very serious accidents happening by the derailment of cars caused by oscillation, attended with considerable loss of life. I have also heard of an instance where, under poor track conditions, it was found necessary to stop the running of cars entirely on account of this tendency. This tendency to excessive oscillation existed with the use old styles of trucks and before the introduction of the truck of the patent in suit.

44 Various and constant attempts were made by the truck-builders and the street railway companies to devise some style of truck which would lessen or obviate such oscillation, which was recognized by the electric railway companies at that time and for several years as one of the most serious difficulties which confronted the profitable operation of street cars by electricity. One attempt was made by having an extended spring base and a plunger or rod entering into a box-like compartment on this extended base, in which compartment there was a spiral spring or cushion which would be compressed when the car attained a rocking or oscillating motion. Another device consisted of additional spiral springs supported on the extended ends of the side frames. A third consisted of extending the spring base and using the spiral springs thereon of different sizes or capacities. Still another

had the usual side beams with outwardly extended ends and two spiral springs on each of these outwardly extended ends, and no spiral springs within the wheel base; and another was the Manier device made under the patent to Manier. All of the above were tried experimentally prior to about 1893.

In an advertising supplement to the Street Railway Journal of October, 1889, there is an advertisement which purports to be, and which I believe was, inserted therein by the Peckham Street Car Wheel & Axle Company, of which I believe Edgar Peckham, defendant herein, was president, and which I believe was the predecessor in the truck business of The Peckham Motor Truck & Wheel Company, defendant. I annex a copy of one page of this advertisement, marked "Exhibit A." In the said journal, at page 291, being the page to which reference is made in said advertisement, I find a comment upon the said style of truck, of which the following is a copy, and annexed to the same and on the same page therewith is a cut of a truck identical with the truck shown in the above-mentioned advertising supplement, marked "Exhibit A."

45 *"An Improved Truck for Street Cars.*

"As the weight and speed of street cars increase, owing to the change from horse power to mechanical traction, and as the cars themselves take the impression of the new motive forces, and new and different types are introduced, in many cases lengthened considerably beyond the old-time limit of sixteen feet, the question arises of how to prevent the rocking or oscillation which, through an eccentric wheel, perhaps, or an inequality in the track, too elastic springs or crowding of passengers towards one end, has always been more or less objectionable. Plainly the remedy is to use double trucks, or to extend the wheel base in order to give the cars a firmer footing on the rails; but this latter is for many reasons impracticable, as a greater wheel base than six feet, if it does not actually increase the traction, causes trouble on the curves; while as to double trucks, objections are found in many cases which so far have interfered with their more general introduction. But since to recognize the difficulty is, for the practical man, usually but a step apart from surmounting it, we are not surprised to be able to show in the cut herewith what appears to be an admirable solution of the problem. The illustration in Fig. 1 represents a new truck gotton up by Mr. E. Peckham, president of the Peckham Street Car Wheel & Axle Company, of New York, a study of which will reveal that while the wheel base is not extended, the exact effect which would result if the axles were widely separated is fully attained, by extending the frame of the truck some feet beyond the axles, and instead of having the springs placed as usual in the pedestals, one on each side of the car is located at each extremity of the frame, and the others at points between the axles equidistant from the outer springs. This arrangement, as will at once be seen, must entirely prevent any rocking motion, and the car ought to ride as smoothly as any

steam railway passenger coach on its double trucks. In this
46 truck as in Mr. Peckham's other type of truck which was illustrated in our last issue, the motor may be suspended in any manner desired. An improved hanger is provided, however, as shown in Fig. 2, containing springs or cushions and a ball socket, which permit of as much flexibility as is needed to guard the motor against injury from the jars and shocks which the car may receive on curves and switches and from any irregularity of the track."

Trucks of this construction were not successful in preventing or lessening oscillation in electric street cars, and were a failure in that respect, and but few if any of them were ever put into use and that their manufacture was soon thereafter given up by said company.

About 1889, 1890 and 1891, I believe that The Peckham Motor Truck and Wheel Company, defendant, or its predecessor, were engaged in making and selling trucks for four-wheel cars, having only spiral springs mounted on the side beams. Some of these trucks had a spiral spring on each side of each axle box and adjacent thereto, making in all four spiral springs on each side; others of them had the said four spiral springs, and also an additional spiral spring supported on the outward or end extension of the side beams.

None of these various devices above mentioned and none of the others tried during that period were successful. They did not reduce oscillation on four-wheel electric cars to a sufficient extent to be practical and to enable the electric railway companies to operate their cars at the high speed required for the successful and profitable conduct of the business. Companies were compelled to confine their cars to slower rates of speed, which caused a decrease of the profits of operation. High speed, with long cars, are the chief factors of the profitable operation of electrically *com*pelled street cars. Operating sixteen-foot cars, or even long cars, by electricity at the ordinary speed of horse cars would hardly be a profitable business.

47 In May, 1889, J. G. Brill Company, of which I was then and have ever since been an officer, received an order for trucks for the Wilmington Railway Company, at Wilmington, Delaware. In filling this order, Mr. G. Martin Brill, then and ever since the president of the company, with whom I was in daily conference in regard to its manufacturing business, explained to me an improvement which he had invented for the prevention of oscillation on single-truck street railway cars. He explained his said invention to me at the time as consisting of extending the spring base, *i. e.*, the two side beams, outwardly, and placing elliptic springs on each side of the said extensions in addition to the two spiral springs supported on the side beams, one on each side of each thereof, and adjacent to each of the axle boxes, so that the truck should have four spiral and two elliptic springs on each side. For a number of months prior to that time he had talked to me about this invention and on several occasions he had, previously to then, made rough sketches of his invention and shown them to me, which together

with his explanation of them, were entirely sufficient to make his said invention entirely clear to me. From what he said to me I understood his invention fully; it was the invention shown and described in the letters patent afterwards issued therefor, and now here in suit.

As the placing of this improvement on this Wilmington order for trucks would have been the cause of increased expense of manufacture, and as the order was for the old Brill No. 7 form of truck, the improvement was not placed on those trucks. We received the order for those trucks on June 6th, 1889. This was a confirmation of our previous offer to build four electric cars and trucks for that company, but prior to that time, for a number of weeks, there had been conferences with the officers of the Wilmington road in relation to this order and my recollection is that we received the verbal order for these cars and trucks some time in May, 1889, and
48 began work on them during that month. The date at which Mr. G. M. Brill explained his said invention to me was about the month of May, 1889. Although I fully understood the said invention as explained and illustrated to me by G. M. Brill, I did not appreciate its great value nor recognize that it would be the best and most practicable and the only possible solution of the problem of the prevention of oscillation in the operation of four-wheel electric cars. Furthermore, the increased cost of about $25 per truck which the said invention made necessary was also, at that time, an additional objection.

The first trucks upon which the improvement of G. M. Brill's was placed, was an order for cars that the J. G. Brill Company received from the Broadway and Newburgh R. R. Co., of Cleveland, Ohio, This order was received in November, 1890. It was taken by G. M. Brill himself at Cleveland. It was for ten trucks and car bodies.

On November 14th, 1890, Mr. G. M. Brill, who was then in Cleveland negotiating for the order, wrote me a letter in regard to it, of which the following is a copy:—

"Weddell house; Charles Wesley,

CLEVELAND, O., *Nov.* 14, 1890.

John A. Brill.

DEAR JOHN: I have had an interview with Mr. Andrews today and in conversation he wants long cars and is somewhat doubtful about using longer than 7 ft. wheel base. I have told him, we could use 8 ft. and leave lips off box and he could use the 21-ft. cars all right, he will see again this afternoon *again* and then we will go over the ground.

On the back of this letter was an ink sketch and certain figures, of which the blue print attached to this affidavit and marked
49 "Exhibit B," is a correct reproduction. On the same day, or the next day, Mr. G. M. Brill also wrote to the treasurer of the company, Mr. James Rawle, a letter of which the following is a true copy:—

"Weddell house, Charles Wesley.

CLEVELAND, O., 189–.

Mr. Rawle:

Tell H. Lycett to see Silversmith and see that they get material for 10 cars 21 long same style of post as the last 8 cars we build, Broadway and Newburgh the size of frame, make material, same as the 21 cars we build Chicago size of glass in deck 1½" higher than their last cars.

Trucks our No. 7 Standard with wheel base 7 ft. 6" extra springs on outside. I will arrange when I get home. Andrews proposes to use, 3⅞" axles and I must get up yoke to take in box of 3½" journal. I have written John about this. I will not use the elliptic alone for I know it will not work with loads unequal so I will have yoke made like this.

The elliptic will prevent pitching and take up extra loads."

The blue print attached to this affidavit, marked "Exhibit C," is a true copy of the ink sketch upon the said letter.

Both the said letters were received in due course of mail by the J. G. Brill Company, and the order was booked and the said letters and sketches were placed in the hands of the draftsman of the company, for the purpose of preparing drawings for the manufacture of said cars. I saw them both at that time. Both of the said original letters, with the ink sketches or drawings thereon, respectively were produced and offered in evidence as part of the proofs in the case of John A. Brill against the Third Avenue Railway Company, now pending in the circuit court of the United States for the
50 southern district of New York. I am, therefore, unable to produce them.

The said draftsman of the J. G. Brill Company made a tracing or drawing from these two letters and sketches and completed the same on December 8th, 1890. The blue-print drawing attached to this affidavit and marked "Exhibit D," is a copy thereof. The original was offered in evidence in the last-mentioned proceedings, and I am now unable to produce it.

The trucks for the Broadway and Newburgh R. R. Company were thereupon manufactured in accordance with the design shown in the drawing, "Exhibit D," and were shipped to the railroad company about January, 1891, and, as I have been recently informed, have since been and were still in use there. I saw this last-mentioned drawing at the time it was made and can fix the date of it by the date which I now perceive in the copy which is written thereon in the handwriting of our draftsman, Walter S. Adams, with which I am familiar.

Between the date of the said Wilmington order and the date of this Broadway and Newburgh order, the former being May, 1889, and the latter November, 1890, I fully discussed this improvement on several occasions with G. M. Brill. The price of our former type of truck had been $250, and when we took the Broadway and Newburgh order and agreed to put on this improvement, we obtained from them $275 a truck, to cover the additional cost of manufacture.

This new type of truck proved to be entirely successful in over
coming oscillation and the J. G. Brill Company at once endeavore
to push its sales actively. Till the fall and winter of 1891, the
were not so successful in doing so. It was named, and has sinc
been known to the trade, as Brill "No. 13" truck.

At the convention of the Street Railway Association whic
was held in October, 1891, at Pittsburg, the J. G. Brill Com
51 pany exhibited a truck of this style, and at the same tim
had some of them in operation on one of the street railway
in Pittsburg, which were exhibited to the railway men attendin
the said convention. This was followed by a large number of sal
of the trucks to various street railway companies in various parts
the country. The J. G. Brill Company manufactured it to th
practical exclusion of its former types of trucks for four-wheel car
Since then, it has been copied by other truck manufacturers, an
street railway companies have recognized it as a necessity of the bus
ness and have almost universally adopted it. The type of truck of th
patent in suit has, since then, supplanted all other four-wheel truc
structures in the markets of the United States. I believe, from
very general knowledge of the trucks in use all over the Unite
States which I have acquired in my business, that fully ninety pe
cent. of all the trucks under four-wheel cars now in use in th
United States on all its street railways, are constructed in accor
ance with the invention described and claimed in the letters pate
in suit. Since the truck structure of the patent in suit became full
known to the trade, which was about 1891 or 1892, the J. G. Bri
Company has not had a single order for trucks of its old No. 7 typ
except for sprinkling cars and a few short body cars for special pu
poses. This No. 7 type was in general use prior to the introductio
of the truck of the patent in suit, and was constructed entirely wit
spiral springs supported on the side beams on either side and adj
cent to each of the axle boxes, but without any springs on extende
side beams.

Since about 1893, all the other truck-builders but one or two hav
been gradually driven by the demands of the trade to make an
sell trucks of the construction of the patent in suit to the practica
exclusion of the various older types formerly made and sol
by them.

52 Application for letters patent of the United States upon th
said invention was filed by George Martin Brill on June 2
1891, and the letters patent in suit thereupon were granted to hi
July 5, 1892, No. 478,218. I annex hereto a true copy of said lette
patent, marked "Exhibit E."

The said George Martin Brill, by two assignments dated respec
fully Dec. 3, 1894, and July 6, 1897, and duly recorded in the Pate
Office, granted and assigned to me all his interest in said lette
patent and all his rights of action thereunder. I annex hereto tru
copies of the said assignments and the same are marked "Exhib
F" and "G" respectively.

On or about July 10, 1897, I filed a bill of complaint in the circu
court of the United States for the southern district of New Yor

against the Third Avenue Railroad Company, a New York corporation, operating a street railway in the city of New York, setting forth the issue of said letters patent, No. 478,216, to George Martin Brill, and their assignment to me, and that the defendant therein had infringed upon my rights as the owner thereof, and praying an injunction and an account. The cause was instituted and carried on by me as a test cause in order to establish the validity of the letters patent here and there in suit, as against the Bemis Car Box Company which had built the trucks therein complained of and against all others who had infringed upon the same or threatened to do so. As also appears by the proofs taken therein, the Bemis Car Box Company undertook and conducted, and had complete control of, the entire defense of the said cause, and their counsel appeared of record on behalf of the defendant therein. The learned judge in its opinion in said cause, which is reported in 103 Fed. Rep. 289, held that said Bemis Car Box Company defended the said suit for the Third Avenue Railroad Company.

An answer was filed to the said bill setting forth that the defendant relied upon the following letters patent and printed
53 matter as meeting or limiting the claims of the letters patent in suit, and, in taking the proofs, defendant examined their expert witness in relation thereto or to certain thereof.

Ashenfelder, 93,945,
Baker, 354,964,
Baker, 460,348,
Bemis, 373,635,
Bemis, 402,890,
Bemis, 405,691,
Bemis & Pfingst, 410,871,
Bemis, 413,890,
Bemis, 449,382,
Bemis, 472,271,
Bickford, 450,608.
Bird, 436,031,
Brill, 357,811,
Brill, 373,640,
Brill, 418,441,
Brill, 432,115,
Diehl, 396,272,
Howard, 396,694,
Hubbard, 457,740,
Kirkley & Gray, 86,416,
La Mothe, 402,169,
Manier, 409,993,
Manier, 412,640,
Peckham, 419,876,
Peckham, 471,061,
Peckham, 417,937,
Peckham, 424,723,
Peckham, 464,253,
Robinson, 451,952,
Schoen, 255,200,
Steves, 64,378,
Taylor, 437,167,
Vose, 199,945,
Vose, 214,328,
Vose, 214,329,
Vose, 347,281,
Vose, 348,251,
Vose, 350,174,
Vose, 351,819,
Vose, 330,445,
Weber, 463,738,
Figure 6,679, Knight'- Dictionary.
Figure C, Knight's Dictionary, p. 1345.
Street Railway Journal for October, 1889.
Street Railway Journal for November, 1889.

The cause was argued by counsel for the parties, Messrs. Briesen and Knauth acting therein also as counsel for The Bemis Box Car Company, the real defendants, and the court, upon consideration, filed an opinion in the *in* cause on July 9, 1900, holding that the

said letters patent as to claims Nos. 1, 2, 9, 10, 11, 12, 14 and
54 27 were good and valid and the title therein was vested in the complainant therein, and directing a decree to that effect and awarding an injunction against the defendant therein to restrain it from infringing the rights of the complainant therein in respect thereof and referring the cause to a master to ascertain the damages and profits due to the complain-t therein, with costs. On the 26th day of July, 1900, the court entered a decree in accordance with said opinion, and on the 30th day of July, 1900, a writ of perpetual injunction issued directed to the said defendants, enjoined it from further infringing the said last-mentioned claim.

On October 1, 1900, the said court entered a further decree rescinding so much of said decree as referred the cause to a master to take an account and decreed that the complainant recover one dollar as a nominal damages and profit and $971.49 costs.

No appeal has been taken on behalf of the defendant, or by the Bemis Car Box Company, from the said decrees.

I annex hereto as part of this affidavit, certified copies of the said decrees, the opinion of the court being reported in 103 Fed. Rep., 289.

I produce herewith for use at the hearing a complete copy of the printed pleadings and proofs in the said cause which were prepared under the rules of the said court and were before the court at final hearing.

On October 13, 1900, I filed in the Patent Office a written disclaimer of claim 17 of said letters, patent No. 478,218, duly executed according to law, in which the J. G. Brill Company joined; a copy of said disclaimer is annexed to this affidavit, and marked Exhibit "H."

A copy of the file-wrapper in the Patent Office of the United States relating to the application for the letters patent in suit was offered in evidence in the said cause, and is reproduced in the printed copy of the defendant's record in said cause, above referred to by me.

55 I have for nearly thirty years past been very familiar with all the styles and types of street railway cars in use throughout the United States. I have been familiar since the introduction of electric trucks in 1887, with the various types of car trucks manufactured and sold in the United States and with those manufactured and sold by The Peckham Motor Truck and Wheel Company, defendant, and its predecessor in the business, the Peckham Car Wheel and Axle Company, I believe the former company was organized about April, 1891. I have seen a great many of the trucks made by the former company in operation in different parts of the United States and I have constantly seen their advertisements showing cuts or drawings of such trucks of various types, both in the street railway trade journals and in advertising matter circulated by said company in the trade. I produce, as a part of this affidavit, marked Exhibit "I," a sheet of advertising matter taken from page 1 of the Street Railway Journal of the issue of December, 1897. The Street Railway Journal was then and has been ever since, the

most important street railway periodical published in the United States, had and has an extensive circulation therein. I have been in the constant habit *habit* of reading its successive issues since its first publication and have frequently seen within the last six years advertisements for the Peckham Motor Truck and Wheel Company therein, containing cuts or drawings of trucks constructed like those contained in the cut or drawing which I now produce. I believe that these advertisements are the advertisements of The Peckham Motor Truck and Wheel Company, defendant. I have seen, in actual use on street railways in the United States, within three years, truck structures which are of the same construction as the truck structures shown on the said page marked "Exhibit I," just referred to by me, and therein respectively designated as "Excelsior," "Standard," and "Extra Long."

56 The said trucks that I have seen all bore upon them the name of the "Peckham Motor Truck & Wheel Company" upon the parts of each of the saddles over the journal boxes or elsewhere.

In my opinion, the trucks of all three of said methods of construction are efficient in preventing or lessening oscillation and for the same reason. The spiral springs are quick-acting springs and have a certain period of action. The elliptic springs are softer and slower acting springs and have a different period of action from the spiral springs. When the two classes of springs are combined in a truck under a car in any of the relative positions shown in said "Excelsior," "Standard," and "Extra Long" trucks and such cars begin to oscillate, the rhythm is broken and the oscillation thereby checked. In my opinion, all four such trucks operate in the same way, and have the same effect in checking or lessening oscillation, and this is due to the same cause as above set forth.

Elliptic springs of the general character and weight of those placed by the J. C. Brill Company on trucks of the construction shown in letters patent in the suit are much more expensive than the spiral truck springs used by them on the same trucks, and I believe that the same statement is true of the relative expense of elliptic springs and spiral truck springs used by all truck-builders upon trucks of this construction. Furthermore, for the mere purpose of sustaining the load, the elliptic springs are no better and no more efficient in any respect than spiral springs would be if substituted therefor. The sole object of the use of elliptic springs in combination with spiral springs in the truck of the patent in suit is to lessen or prevent oscillation. Furthermore, trucks of this type, with an extended spring base, cost, to manufacture, at least ten per cent. more than the old style of trucks with side beams and spiral springs,

57 but without an extended spring base, and weigh at least fifteen per cent. more. Railway companies, which always regard economy in cost and in weight as of great importance, would not buy heavier and more costly trucks if they did not believe them to be better adapted for the prevention of oscillation.

JOHN A. BRILL.

Sworn to and subscribed before me this thirteenth day of October, 1900.

R. W. BRAGG, JR.,
Notary Public.

[SEAL.]

(Here follow diagrams marked pp. 58, 59, 60 & 61.)

62 EXHIBIT F.

Liber M 50, page 300.

Know all men by these presents that I, George Martin Brill, of the city of Philadelphia, Pennsylvania, in consideration of the sum of one dollar, to me in hand paid by John A. Brill of the said city, the receipt whereof is hereby acknowledged, have sold, assigned, and set over, and do hereby assign, sell and set over unto the said John A. Brill, the following letters patent of the United States, and all my right, title and interest therein and thereunder and all the rights thereby secured.

No. 1. One full undivided half interest of, in and to, letters patent, No. 427,966, dated May 13, 1890, to G. M. and J. A. Brill for improvements in motor cars.

No. 2. Letters patent, No. 445,307, dated January 27, 1891; for improvements in car brakes, granted to George Martin Brill.

No. 3. Letters patent, No. 457,599, dated August 11, 1891, for improvements in trucks for electric motors, granted to George Martin Brill.

No. 4. Letters patent, No. 461,662, dated October 20, 1891, for improvements for motor trucks for cars, granted to George Martin Brill.

No. 5. Letters patent, No. 478,218, dated July 5, 1892, for improvements in car trucks, granted to George Martin Brill.

The same to be held and enjoyed by the said John A. Brill for his own use and behoof and the use and behoof of his legal representatives to the full end of the term for which such letters patent were granted respectively as fully and entirely as the same
63 would have been held and enjoyed by me had this assignment not been made.

Witness my hand and seal this 3rd day of December, A. D. 1894.

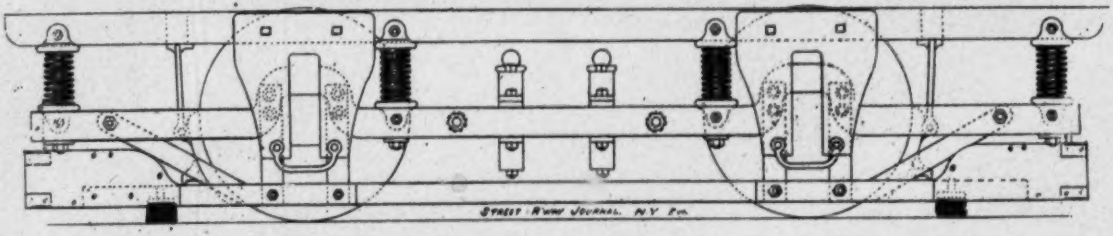
GEORGE MARTIN BRILL. [SEAL.]

Witnesses:

M. H. McNEIL.
HENRY C. ESLING.

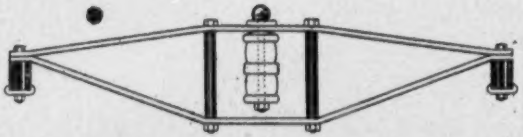
Recorded December 7, 1894.

Peckham's NON-OSCILLATING Electric Motor Truck,



Designed expressly for Long Cars,

—WITH—



FLEXIBLE MOTOR HANGER.

See Page 491 of this issue of Street Railway Journal.

No. 4414 Brill v. Peckham Co. p. 58

38 Fed. 58

FOLD OUT IS TOO LARGE TO BE FILMED

Notary Public.

Recorded July 10th, 1897.

6—444

EXHIBIT G.

Liber E 56, page 172.

Whereas, I George Martin Brill, did obtain letters patent for certain new and useful improvements in car trucks, which letters patent bear date the fifth day of July, 1892, and are numbered 478,218, and

Whereas, John A. Brill, of the city of Philadelphia, is desirous of acquiring an interest therein.

Now, this indenture witnesseth, that, for and in consideration of the sum of one dollar to me in hand paid, the receipt of which is hereby acknowledged, I have assigned, sold and set over and do hereby assign, sell and set over to the said party of the second part, John A. Brill, all the right, title and interest which I have in the said invention, as secured to me by said letters patent, No. 478,218, dated July fifth, 1892, as aforesaid, together with all my right to any and all damages or profits that may now be due me from any and all persons whatsoever by reason of any infringement thereof and the right to sue for, recover and
64 collect the same to be held and enjoyed by the said John A. Brill, for his own use and behoof, and the use and behoof of his legal representatives, to the full end of the term for which said letters patent are to be granted, as fully and entirely as the same would have been held and enjoyed by me had this sale and assignment not been made.

In testimony whereof I have hereunto set my hand and affixed my seal this sixth day of July, A. D., 1897.

GEORGE MARTIN BRILL. [SEAL.]

Sealed and delivered in the presence of

SAMUEL M. CURWEN.
HENRY C. ESLING.

STATE OF PENNSYLVANIA, } ss:
County of Philadelphia, }

On the sixth day of July, A. D., 1897, before me, the subscriber, a notary public for the Commonwealth of Pennsylvania, residing in the city of Philadelphia, personally appeared George Martin Brill, within named, and in due form of law acknowledged the within written assignment of patent to be his act and deed for the uses and purposes therein expressed, and desired that the same might be recorded as such.

Witness my hand and notarial seal the day and year aforesaid.

[SEAL.] HENRY C. ESLING,
Notary Public.

Recorded July 10th, 1897.

65 *Decree.*

At a stated term of the circuit court of the United States for the southern district of New York, held at the court-rooms of said court, in the city of New York, county of New York, and State of New York, on the 1st day of June, 1900.

Before the Hon. Nathaniel Shipman, Circuit Judge.

JOHN A. BRILL, Complainant,
vs.
THIRD AVENUE RAILROAD COMPANY, Defendant. } In Equity.

This case having come on for final hearing, upon the bill of complaint, the answer thereto of the defendant, the replication of complainant to said answer, and proofs taken on the part of the complainant, and Mr. Joseph L. Levy, solicitor, and Mr. Francis Rawle, of counsel, having been heard on behalf of the complainant, and Mess. Hoadley, Lauterbach & Johnson, solicitors for defendant on its behalf, and Mess. Briesen & Knauth, on behalf of the Bemis Car Box Company of New York City, N. Y., and Springfield, Mass.

Now, therefore, upon consideration thereof, and on motion of Joseph Levy, Esq., solicitor for complainant, and due deliberation had, it is hereby

Ordered, adjudged, and decreed, that the letters patent of the United States granted to George Martin Brill under date of July 5, 1892, and No. 478,218, for a new and useful improvement in car trucks, are good and valid letters patent, as to claims 1, 2, 9,
66 10, 11, 12, 14 & 27 thereof; and that the complainant herein is entitled to the exclusive rights in, to and under said letters patent, and in and to the inventions and improvements secured thereby; and that the title thereto is duly vested in the complainant, and that the defendant, The Third Avenue Railroad Company, has infringed upon said letters patent, and upon the exclusive rights of the complainant thereunder, infringing claims 1, 2, 9, 10, 11, 12, 14 & 27 thereof, by purchasing from the manufacturer and using car trucks containing the inventions, devices, and mechanical combinations identified by said claims 1, 2, 9, 10, 11, 12, 14 & 27 of said patent, and upon the exclusive rights of the complainant thereunder, as secured by claims 1, 2, 9, 10, 11, 12, 14 & 27 thereof.

And it is further ordered, adjudged, and decreed, that the complainant do recover from the defendant, The Third Avenue Railroad Company, the gains, profits savings, and advantages which the said defendant, The Third Avenue Railroad Company, has derived, received or made by reason of the infringement of complainant's rights as aforesaid; and that said complainant do recover any and all damages which he has sustained by reason of such infringement of his exclusive rights by said defendant as aforesaid.

And it is further referred to John A. Shields, Esq., he having been consented to by the parties of record herein, to ascertain, take and state the number of car trucks purchased, used or sold, or caused to

be purchased, used or sold by said defendant, The Third Avenue Railroad Company, or which the said defendant has now on hand, and the gains, profits savings and advantages derived by said defendant, from and through said infringement, and to assess the damages thereby suffered by the complainant, and to report thereon to the court with all convenient speed.

And the said defendant, through its officers and managers, is hereby directed and required to attend before the said John
67 A. Shields, as master, from time to time, as may be required by him, and to produce before him such, books, papers, exhibits, statements, vouchers and documents, as it may be directed by the said master to do, and to submit to such oral or other examinations as the master may direct; and that the costs of such reference be awarded to the complainant herein.

And it is further ordered, adjudged and decreed, that a perpetual injunction be issued out of and under the seal of this court, enjoining and restraining the defendant, The Third Avenue Railroad Company, and its officers, trustees, directors, managers, agents, attorneys, servants, workmen, from directly or indirectly selling, making, or causing to be made, using or causing to be used, working or putting into practice, operation or use, or vending to others to be used in any manner, any street or other car trucks containing or embodying, or in any way counterfeiting or imitating any of the said inventions described and secured in said letters patent, and from infringing upon or violating any of the said letters patent by the manufacture, use or sale of street or other car trucks involving the inventions, devices and combinations identified by said letters patent, and the first, second, ninth, tenth, eleventh, twelfth, fourteenth, and twenty-seventh claims thereof, or from in any manner infringing upon the said letters patent, or the complainant's right thereunder.

And it is further ordered, adjudged and decreed, that inasmuch as claim 17, which has been held non-patentable, is not a substantial and material part of the thing patented, the complainant do recover from the defendant, The Third Avenue Railroad Company, all his costs in this suit to be taxed, and that the question of increasing the damages be reserved until the coming in of the master's report.

N. SHIPMAN,
Circuit Judge.

68 The appointment of John A. Shields, as master of this court to hear and report as herein recited is consented to.

New York, July 19th, 1900.

HOADLY, LAUTERBACH & JOHNSON,
Solicitors for Defendant.

EUGENE TREADWELL,
Of Counsel for Defendant.

JOSEPH L. LEVY, *Solicitor for Complainant.*

(Endorsed:) United States circuit court, southern district of N. Y. John A. Brill, compl't *vs.* Third Avenue Railroad Company, def't.

Decree. Joseph L. Levy, solicitor for compl't, 206 Broadway, N. Y. city. A copy this day received, July 18, 1900. Hoadley, Lauterbach & Johnson. U. S. circuit court, Filed July 26, 1900. John A. Shields, clerk.

A copy.
[SEAL.] (S'g'd) JOHN A. SHIELDS. *Clerk.*

Final Decree.

Circuit Court of the United States, Southern District of New York.
In Equity.

JOHN A. BRILL, Complainant,
vs.
THIRD AVENUE RAILROAD COMPANY, Defendant.

And now, October 1st, 1900, on motion of Joseph L. Levy, Esq., Francis Rawle, Esq., and Frederick P. Fish, Esq., for complainant, it is

69 Ordered, adjudged and decreed that the decree of this court entered on the 26th day of July, 1900, be rescinded in so far as the same directs that the cause be referred to John A. Shields, Esq., to ascertain, take and state the number of car trucks purchased or sold, or caused to be purchased, used or sold by said defendant, The Third Avenue Railroad Company, or which the said defendant had on hand, and the gains, profits, earnings and advantages derived by said defendant from and through said infringement; to report on the profits derived by the defendant; and to assess the damages suffered by the complainant, and to report thereon to the court; and in so far as it directs the defendant to attend before said master when required, and to produce books and papers, &c., before him, and to submit to such oral or other examination as the master might require, and that in all other respects the said decree do stand as the final decree of this court.

And it now appearing that the complainant waives the right to an accounting of profits and to any substantial recovery of damages against the defendant, it is hereby further

Ordered, adjudged and decreed, that the complainant do recover from the defendant the sum of one dollar as damages and profits, and the further sum of nine hundred and seventy-one dollars and forty-nine cents ($971.49) costs and disbursements taxed herein.

E. HENRY LACOMBE, *U. S. C. J.*

I, John A. Shields, clerk of this court, do hereby certify that the costs directed by the decree entered in this cause on the 26th day of July, 1900, to be taxed, have been taxed in the sum of nine hundred and seventy-one dollars and forty-nine cents ($971.49), and that defendant was represented at the said taxation by counsel.

JOHN A. SHIELDS,
[SEAL.] *Clerk U. S. Circuit Court,*
Southern District of New York.

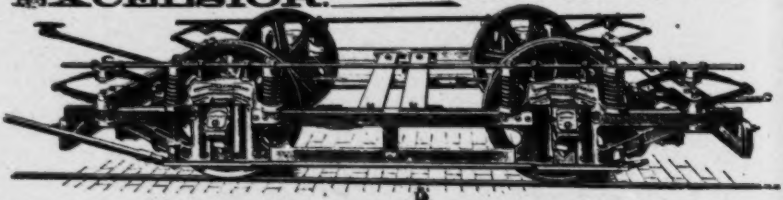
Peckham's SYSTEM OF

"SINGLE" ELECTRIC TRUCKS

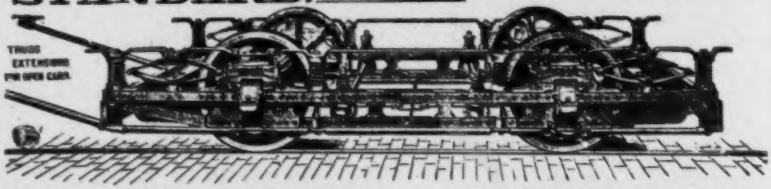
Comprises Trucks adapted for any and all conditions of service, from light weight, short 14 ft., to extra heavy and extra long 22 and 24 ft. closed, and 28 to 32 ft. open cars.

Also Special Trucks for Freight, Mining Cars, and Locomotive and Switching Service.

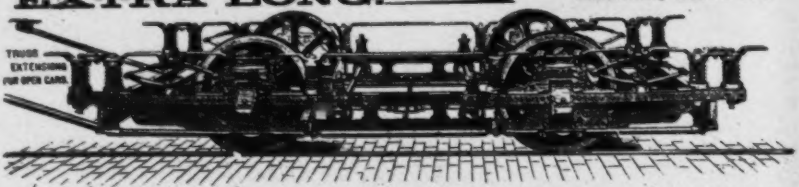
EXCELSIOR. Designed for Light Weight Electric Cars.



STANDARD. Designed for Medium Length and Weight Electric Cars.



EXTRA LONG. Designed for Extra Long and Extra Heavy Electric Cars.



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Boston, 53 State Street. Philadelphia, 420 Walnut Street. Chicago, Marquette Building.
San Francisco, 123 California Street. London Office: 30 Victoria Street, Westminster.

70 The form and entry of the foregoing decree is hereby consented to.

HOADLEY, LAUTERBACH & JOHNSON,
Solicitors for Defendants.

New York, October 1, 1900.

(Endorsed:) U. S. circuit court, southern dist. of N. Y. John A. Brill, compl't, *vs.* Third Avenue R. R. Co., def't. Decree, Joseph L. Levy, solicitor for compl't, 206 Broadway, N. Y. city. U. S. circuit court, Filed October 1, 1900, John A. Shields, clerk.

A copy. [SEAL.] JOHN A SHIELDS, *Clerk.*

EXHIBIT H.

To the Commissioner of Patents:

Your petitioner, John A. Brill, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, and State of Pennsylvania, and the J. G. Brill Company, a corporation organized and existing under the laws of the State of Pennsylvania, having its principal place of business in said county of Philadelphia, represent that in the matter of certain improvements in car trucks, for which letters patent of the United States, No. 478,218, were granted to George Martin Brill on July 5th, 1892, the said John A. Brill is assignee of the entire interest therein by deed of assignment from George Martin Brill to him, dated December 3rd, 1894, and recorded in the Patent Office in Liber M 50, page 300, and by deed of assignment to George Martin Brill to him dated July 6th, 1897, and recorded in the Patent Office in Liber E 56, page 172, and the said J. G. Brill Company is the sole and exclusive licensee thereof for the whole of the
71 United States by virtue of a verbal agreement between the said John A. Brill and the J. G. Brill Company aforesaid, and that they have reason to believe that from inadvertence and without any fraudulent or deceptive intention, the specifications and claims of said letters patent are too broad, including that of which the said patentee was not the first inventor.

Your petitioners, therefore, hereby enter this disclaimer of claim seventeen (17), thereof, which is in the following words:

"17. The upper chord having the depending cap 45, with downwardly extending legs 46, and elliptical springs held on the side beams, adapted to move in said cap, substantially as described."

Dated twelfth October, A. D. 1900.

JOHN A. BRILL.
J. G. BRILL CO.,
[SEAL.] By GEO. MARTIN BRILL, *President.*

Witnesses:
As to J. A. B.,
JOHN SHEVLIN.
H. T. TALIAFERRO.
As to J. G. B. Co.,
HENRY C. ESLING.

(Here follows diagram marked p. 72.)

73 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS.

STATE OF PENNSYLVANIA, *County of Philadelphia,* } *ss:*

George Martin Brill, being duly sworn according to law, deposes and says as follows:

I am the president of The J. G. Brill Company, complainant, which is a Pennsylvania corporation engaged in the manufacture of railway cars and trucks in Philadelphia. I have read the bill of complaint in the above cause. The facts therein averred are true, except as to those matters which are therein averred upon information and belief, and as to those I believe them to be true.

I reside at 3500 Powelton avenue, Philadelphia. I have been president of the J. G. Brill Company for over twelve years last past, and before that was vice-president of it. I have been in the car-manufacturing business with that concern for over thirty years. The original company was J. G. Brill & Son, and afterwards J. G. Brill & Company, and for about fifteen years, J. G. Brill Company. I was a member of both the said firms. The company employs over thirteen hundred men. The annual output of its works is
74 about two and a half millions of dollars in cars, trucks and railway supplies.

I am the patentee under letters patent of the United States No. 478,218. I have made a large number of inventions connected with cars and trucks, and have taken out a large number of letters patent of the United States therefor. My connection with the business has been chiefly in the manufacturing department.

In April, 1889, the company had at its works fo-r double truck cars built for the Julien Electric Accumulator Company, of New York, which the latter company requested us to sell for its account. We sold them to the Quincy and Boston railway and equipped them with our old type of No. 6 four-wheel truck. The car bodies were extra long and I then conceived the idea of extending the spring base of the truck, that is, the side beams, at each end of the truck, and putting elliptic springs on these end extensions in addition to the spiral axle-box springs which were used on our No. 6 truck. The No. 6 truck was constructed with two spiral springs adjacent to each axle box and supported on the side beams, that is, four spiral springs only on each side and no elliptic springs.

In May, 1889, we had an order for cars from the Wilmington City railway, with extra long platforms. While preparing to build them, I proposed to John A. Brill, one of the complainants in the above cause, who was then and is now an officer of the J. G. Brill Company, and engaged constantly in its manufacturing department, my invention of putting an extended spring base on these cars by

lengthening the side beams at each end and putting elliptic springs on each of the outward extensions of the side beams. I explained to him that this was done to prevent oscillation. I explained the invention to him fully and in such a way that it was made entirely clear to him. I made sketches of it and showed them to him at the time.

75 In regard to putting my invention on that order, John Brill did not agree with me; he said that the Wilmington company had ordered our "No. 6" trucks, and we had better fill the order as they gave it and place this invention upon some later order. The invention was then ready to be put into use as soon as a company were found who were willing to pay a higher price for the truck than they had been paying for our No. 6 or No. 7 types of trucks. Railway trucks are always built upon orders and never kept in stock. The truck companies build what the railway companies specify and order and only that.

In November, 1890, I went to Cleveland to get an order for cars from the Broadway and Newburgh Railway Company of Cleveland. They wanted 21-foot car bodies mounted on our "No. 7" type of four-wheel trucks. They asked me to guarantee the cars against oscillation. I therefore decided to build them with an extended spring base by lengthening the side beams outwardly in both directions on our "No. 7" truck, and putting elliptic springs on these outward extensions of these side beams. This was the method of construction which I had previously invented as above stated. I contracted with the said railway company to build their cars in that way, and agreed to guarantee them against oscillation.

On November 14, 1890, I wrote a letter to John Brill from Cleveland, in regard to this order, and on the next day, November 15, having got the order, I wrote a letter of instruction to James Rawle, the secretary of the J. G. Brill Company, in regard to building the cars and trucks. These two letters are the two letters referred to in the affidavit in the cause of John A. Brill.

On my return to the works, within a few days after writing these two letters, I took the matter up. The draftsmen of the company prepared a drawing from the said two letters and completed

76 the same on December 8, 1890. I give this exact date from seeing it upon the said drawing, which I saw at the time it was completed and now recognize. The trucks for the Cleveland Company were built in accordance with the directions in my said letters of November 14 and 15, 1890, and with the drawing above mentioned, the latter having been made by our draftsman from the said letters. I remember that the letter to James Rawle, was written the day after I wrote the letter to John A. Brill, that is, the day after November 14, 1890. Both letters are entirely in my handwriting; I also made the sketches on them.

These sketches and letters were handed to our draftsmen and furnished him all the information necessary to enable him to make the said drawing of December 8, 1890, and he did make it from them.

The trucks were built at our works with elliptic springs on the

outward extentions of two side beams and the two spiral springs adjacent to each of the axle boxes. They were built at once and were delivered to the said railway company in January, 1891. The contract price of the said trucks was $275 which was $25 a truck more than our regular price for our "No. 7" truck.

The said trucks were at once put in use by the Broadway & Newburg Railway Company, and, as I am informed, have been in use for many years. I, personally, saw one of them in use on the said road in Cleveland within the past two years.

My object in making said improvements was to prevent oscillation. I believed that the elliptic springs, which are softer and slower acting springs would when thus used in combination with spiral springs, which are quick-acting springs, produce this result. Experience has fully demonstrated that I was correct.

The oscillation of cars is thus explained:

With the introduction of electric propulsion, it was necessary to run cars at a much greater rate of speed. This was the cause
77 of very excessive oscillation in cars, and oscillation became a very serious evil in street railway practice. As companies began to lengthen the car bodies with an increased overhang at each end, the tendency to oscillation was increased. When a car running at a high speed begins to oscillate, it is necessary to slow down the speed at once. With excessive oscillation, there is a serious danger of derailment and many instances have been known in which cars have been derailed under those circumstances. The oscillation or galloping of the car body, when in motion, wears out and rapidly deteriorates the tract, chiefly at the rail joints, and the more the track deteriorates, the greater the oscillation. This "pounding," caused by oscillation, wears out the truck parts and the car body, and the motion is extremely uncomfortable for the passengers, and instances have been known where passengers have been thrown from open cars by this galloping motion.

The type of truck which I invented, as above stated, was thereupon designated by the Brill Company as its "No. 13" truck and was made known to the trade in 1891 and thereafter and entirely took the market throughout the United States. Nearly all of the truck dealers began to build trucks constructed in accordance with the patent in suit and the railway companies began to order them almost exclusively. Practically, and except for a few limited purposes where short car bodies were required, the old types of truck were no longer manufactured or sold, and in the course of a few years after my said invention, nearly 90 per cent. of all the four-wheel trucks in use in the United States were constructed in accordance with this invention. There is also a large foreign demand for them. The Brill Company practically built no more of its "No. 6" and "No. 7" types of truck, but, in the line of four-wheel car trucks, manufactured and sold almost exclusively trucks of its "No. 13" type.

78 Since their first introduction, I have had personal knowledge of the various kinds of trucks that have been manufact-

ured and sold and in use on electric street railways in the United States.

GEORGE MARTIN BRILL.

Sworn to and subscribed before me, this 13th day of October, 1900.

HENRY C. ESLING,
Notary Public.

[SEAL.]

United States Circuit Court, Southern District of New York. In Equity.

JOHN A. BRILL and J. G. BRILL COMPANY
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS.

STATE OF PENNSYLVANIA, *County of Luzerne*, } ss:

James Fagan, being duly sworn according to law, deposes and says as follows:

I reside in Wilkesbarre, Pennsylvania. I am superintendent of the motive power of the Wilkes-Barre and Wyoming Valley Traction Company, in whose employ I have been continuously since January, 1892. It is operated by the United Power and Transportation Company. My duty is to look after the motive power and the trucks and the rolling stock. The company operates fifty
79 cars. I have had experience in street railway business in Scranton, Philadelphia, Harrisburg and Chicago. My present company operates roads in Philadelphia; Trenton, N. J.; Wilmington, Del.; and Chester, Reading and Lebanon, Pa.

When I went into the employ of the company in January, 1892, it had in use sixteen-foot car bodies, mounted on Brill "No. 7" and St. Louis trucks. These were the ordinary side-beam trucks, with only spiral springs supported thereon on either side of and adjacent to the axle boxes—that is, four spiral springs on each side. When these cars were running on the ordinary horse-car rails, the oscillation was very excessive. The effect of it was to "pound" the rails and wear them out rapidly. The effect on the passengers was very disagreeable. The effect on the trucks and car bodies was to cause excessive wear. With an oscillating car, there was a tendency to get the trolley off the wire.

Where there is a tendency to oscillation, it increases with the speed. It takes place at, or is caused by, the "low" or depressed joints of the rails and the intersection of tracks and where there is a change of grade.

The oscillation with the trucks I have mentioned was so injurious that we were obliged to abandon the use of these trucks.

Since some time in 1892, we have introduced Brill "No. 13" type of truck on these roads. It is built with a spiral spring on either side and adjacent to each axle box, and an elliptic spring on each

of the outward extensions of the side beams—that is, with four spiral springs and two elliptic springs on each side of the truck. My first knowledge of this type of truck was in the spring of 1892.

My company ceased to use the old type of truck some time in 1892 or 1893, replacing them with Brill "No. 13" trucks. We threw out the old trucks and substituted the Brill "No. 13" under the same car bodies. We thereby reduced oscillation to a
80 safe point and were enabled to run our cars at a higher rate of speed on the same road-bed. There was also less expense required in keeping up the trucks and less strain on the car bodies. We now use Brill "No. 13" and "No. 21," the only difference between them is that in the latter the side beams are solid forgings.

The profitable operation of an electric street railway depends chiefly upon running cars at high speed. When a car in running fast begins to oscillate, the speed has to be checked till the car becomes steady.

My experience with the said St. Louis trucks in use on that road in the early part of 1892, constructed with spiral springs adjacent to the axle boxes and no extended ends or elliptic springs, was that they were very hard riding. We thereupon decreased the strength of the supporting springs, but the effect of that was to increase the oscillation so much that those cars continually ran off the track, and for that reason we discarded the use of that particular type of truck. At one time the oscillation was so bad on our Canal Street line that people refused to ride in the cars on that account. The use of the Brill "No. 13" did away with the excessive oscillation and allowed us to run at a high rate of speed without danger or annoyance to passengers or injury to the rolling stock or tracks.

In my opinion, the reason that the combination of elliptic with spiral springs, as in the Brill "No. 13" truck, lessens or obviates oscillation, is that the elliptic spring is a softer spring, having a different period of vibration than the spiral spring. When combined, as in the "No. 13" truck, the effect is to break up or prevent the up and down rocking motion of the car body, that is, to lessen the oscillation.

Four-wheel trucks with a combination of spiral and elliptic springs on the extended ends of the side beams have practically displaced all other types of single trucks in this country, and have gone into general use.

81 I have been and am familiar with the trucks for four-wheel electric cars manufactured and sold for some years past by the Peckham Motor Truck & Wheel Company, of Kingston, New York, and advertised by that company and known in the trade respectively as "Excelsior," "Standard," and "Extra Long."

I believe that the combination of spiral and elliptic springs on the extended spring base of the Peckham "Standard," and "Extra Long" types of trucks, operates in the same way as they do when they are combined and arranged as on the Peckham "Excelsior" trucks and on the Brill "No. 13," and, in use, have the same or a similar effect in preventing or lessening the galloping motion of the car.

(S'g'd) JAMES FAGAN.

Sworn to and subscribed before me, this 13th day of October, 1900.

(S'g'd) B. B. WINCHESTER,
[SEAL.] *Notary Public.*

United States Circuit Court, Southern District of New York. In Equity.

JOHN A. BRILL and J. G. BRILL COMPANY, Complainants,
vs.
PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS., Defendants.

COUNTY OF NEW YORK, } *ss:*
State of New York, }

Harvey M. Littell, having been duly sworn accordiag to law, deposes and says as follows:

82 I live in the city of New York, borough of Manhattan. I am forty-four years of age. I have been engaged in the street railway business since 1874. I was in the employ of the Louisville City Passenger Railway Company from 1874 to 1880 and during that time I think I filled every position on the road in connection with the operation of its cars. In 1882 I became superintendent of the St. Paul Street Railway Company and remained with them until 1888, in that and other capacities. On October 1st, 1888, I became general manager of the Cincinnati Incline Plane Railway Company, which operated, electrically, a street railway with about sixty cars. I had charge of its electric equipment. On January 1st, 1893, I became president and manager of a large electric street railway system in New Orleans, operating 125 miles of road and about 200 cars. I had charge of the electrical equipment of that system, which was completed about the time I left there. I was there about two and a half years. Subsequently, I became president and manager of a large electric street railway system in Brooklyn. Then I became vice-president and manager of the Metropolitan Street Railway Company of New York, which was partly electrical, partly cable, and partly horse railway.

I bought the first electrical trucks in the fall of 1888 and subsequently purchased trucks for other roads. I personally and carefully investigated various truck constructions at that time and became very familiar therewith and had the personal responsibility of deciding what styles of trucks should be bought.

In the operation of four-wheel cars at a high rate of speed on a smooth track with grades, or on a track where the rail joints are imperfect or where a car is not evenly loaded, there is a constant tendency towards oscillation. When a car oscillates, the wheels act

83 as a hammer upon the track. This finally results in what are called "low joints," that is, the rails become depressed at the ends and high in the middle. When they get into this shape, they have to be replaced. The oscillation of a car is like see-

sawing; the weight gets first on the front wheels and then on the rear wheels and acts as a hammer.

This wear and tear on street railway tracks has led to the introduction of very heavy rails in street railway practice; a good deal heavier than those required on steam railroads. The wear and tear on street railway tracks is a great deal more expensive on account of the cost of repaving when tracks are repaired. Oscillation also shortens the life of the truck and the car body and makes an uncomfortable vehicle for passengers.

Where cars are running at the high rate of speed and begin to oscillate, brakes must be applied immediately and the speed reduced. If this is not done, the car may be derailed. Many derailments have been caused by excessive oscillation.

I first saw the Brill "No. 13" truck made with elliptic springs on the extended side beams and spirals adjacent to the axle boxes in Pittsburg, in October, 1891, at the meeting of the American Street Railway Association.

Prior to that time, the Cincinnati company above mentioned used trucks which did not have extension frames or elliptic springs. Until October, 1891, I never saw an extension frame with spiral and elliptic springs combined. I had, previously to that time, seen Maguire trucks with spiral springs on the extension side frames, but no elliptics. There were eight of such spirals on each side of the truck. Prior to October, 1891, trucks with all spiral springs were the only kind that ever came under my notice. After October, 1891, I had experience in New Orleans with Maguire trucks constructed with extended axle-box frames and all spiral springs. My
84 first actual experience with the Brill "No. 13" trucks was in 1893, in New Orleans. I tried them on the road there and found that the oscillation was distinctly less than in the case of the Maguire trucks above mentioned. By using said Brill "No. 13" trucks, we were enabled to acquire a high rate of speed, without slowing up as we frequently had to do when we operated trucks constructed without elliptic springs.

The car bodies which we used in New Orleans in 1893, mounted on Brill "No. 13" trucks with combined spiral and elliptic springs and extension frame, were larger than the cars which I operated in 1888 in Cincinnati. The latter seated from twenty-two to twenty-six passengers, while the New Orleans cars seated forty-five passengers.

Trucks constructed with side beams and combined elliptic and spiral springs, with an extension frame, have long since gone into general and almost exclusive use on the street railways throughout the United States. They have almost entirely displaced the trucks of the earlier type, which had all spiral springs. So far as the use of trucks under long car bodies is concerned, I believe that this type has entirely displaced the earlier types with all spiral springs.

The profits of electric railways depend chiefly upon two things: Long car bodies, carrying an increased number of passengers and the operation of the cars at high rates of speed. The latter increases the daily car milage; the former enables the car to carry a larger

number of passengers per mile. The operation of electric railways with sixteen-foot car bodies, run at a low rate of speed, would not, in my opinion, be a profitable business.

I am familiar with the four-wheel electric car trucks that have been manufactured by the Peckham Motor Truck & Wheel Company, of Kingston, New York, for some years past and known in the trade as "Excelsior," "Standard," and "Extra Long." In my opinion, the operation of the said combination of elliptic and
85 spiral springs as arranged on the "Standard" and the "Extra Long" trucks is the same as that of the combination of elliptic and spiral springs as arranged on the "Excelsior" and on the Brill "No. 13" truck. The combination of ellipties and spirals in all four of said constructions to brake up the rhythm or period of the oscillation of the car bodies when in motion and thereby lessens or prevents the galloping or rocking motion of the car.

HARVEY M. LITTELL.

Sworn and subscribed before me, this 12th day of October, 1900.

CHARLES D. LITHGOW.

[SEAL.] *Notary Public, No. 61, N. Y. Co.*

United States Circuit Court, Southern District of New York. In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Plaintiffs,
vs.
PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS., Defendants.

COUNTY OF WORCESTER, } ss:
State of Massachusetts, }

John N. Akarman, having been duly sworn according to law, deposes and says as follows:

I am forty-six years of age. I am superintendent of the Worcester, Mass., Consolidated Railway Company. I first became
86 engaged in the street railway business in 1873, on the South Boston road. I stayed there till 1875 or 1876, when I entered the service of the Middlesex Horse Railroad Company, of Boston, and stayed there till 1883, when I became superintendent of the Charles River Street Railway Company, of Boston, Mass. I left that road and built the Biddeford and Saco road in Maine; then I became general superintendent of the Newark Passenger Railroad Company, of Newark, N. J., and was superintendent until 1892, when I became the superintendent of the Worcester Consolidated Railway Company, of Worcester, Mass., which position I now hold.

I first became acquainted with the use of electric cars about the spring of 1891, of the Newark road above mentioned. The Worcester road was equipped with electricity under my direction, and since 1893, has been so operated.

I have had a very considerable experience with four-wheel cars on electric street railways. In the use of cars of this type, there is

a constant tendency to oscillation of the car body. This in my opinion, is due to the fact that the car body is longer than the wheel base, or in other words, the distance between the axle centres of the truck, and overhangs the truck at each end. The wheel base in such a car is limited to a length of between six feet and seven feet six inches, on account of the short radius curves on narrow city streets. Car bodies mounted on such trucks are made of a length of from eighteen to twenty-two feet, being made as long as possible in order to accommodate the largest number of passengers.

The cause of oscillation in operating such a car body, when placed upon such a truck, is as follows:

It was the usual practice in laying the rails to leave a slight space between the ends of the rails, and when the ends of the rails became more or less depressed, a car, in passing over such depression,
87 gets a rocking or galloping or oscillating motion. This is aggravated somewhat when the rail joints of the opposing rails are placed opposite each other, and is modified somewhat when the joints of one opposing rail are placed half way between the joints of the other opposing rail, which is commonly known as "staggering" the joints. This rocking, or galloping or oscillating motion is increased when the track gets out of repair, and also when cars are run at a high rate of speed. Other imperfections of the truck, and also sudden changes of grade, would also cause this rocking or galloping motion.

When a car, under such conditions, begins to rock or gallop, it pounds the joints of the rails and depresses them, thus making the track conditions more and more likely to produce such motion. It has therefore been found necessary in the best modern street railway practice to use rails weighing from 90 to 110 pounds to the yard, whereas, on steam railroads, rails are used weighing from 50 to 100 pounds to the yard. Track repairs in street railways is a matter of very great expense on account of the necessity for repaving in connection with it. In street railways, it has been found desirable to lay the tracks with cast-welded or electrically welded joints, so as to make a continuous rail and thereby prevent oscillation. The effect of oscillation on a car truck is to bring about strains in the truck structure, and to cause excessive wear thereof, and thereby diminish its life and service. The same is true of the effect of oscillation upon the car body. Oscillation also causes great discomfort to the passengers, and on open cars it presents an element of danger to the passengers, there having been cases where passengers have been thrown from their seats when the oscillation was excessive.

Oscillation is greatly increased with an increase of speed, and as soon as a car in rapid motion begins to oscillate seriously, it is necessary at once to slow down the car, as in such cases there is great danger of derailment.

88 The oscillation of the car also affects seriously the overhead wire construction in overhead-trolley systems; the motion of the car is imparted, through the trolley pole to the trolley wire, and

gives the trolley wire a swaying motion, which in time, crystallizes it and leads to frequent breaks of the wire.

My first experience with four-wheel electric cars was on the Newark Passenger Railway Company, of Newark, New Jersey, about the spring of 1891. It operated four-wheel trucks manufactured by the Bemis Car Box Company, of Springfield, Massachusetts, of three different types. Some of them merely had spiral springs next to and on each side of the axle boxes; others had extended spring bases, and in connection therewith, plungers or rods entering into a box-like compartment (supported on the extended spring bases), in which there were spiral springs or cushions which would be compressed when the car began to oscillate. The third type had additional spiral springs placed upon the outwardly extended ends of the side beams of the truck. None of these types of truck were successful in preventing excessive and dangerous oscillation, and the railway company with which I was then connected, made some experiments of its own, using trucks having side beams with outward or end extensions and spiral springs thereon of different sizes and resistance. These experiments were also unsuccessful in preventing the oscillation. In the use of all four types of trucks on that road, as above described, we had excessive and dangerous oscillation of the cars, and we were unable to run our cars at the rate of speed necessary for successful operation.

My attention was first called to the Brill "No. 13" truck at the convention of the American Street Railway Association in Pittsburg, in October, 1891. I saw it in operation on a street railway there. I was so favorably impressed by its operation, that the Orange line, of which I had charge in connection with the Newark Pas-
89 senger Railway Company was equipped with twenty of these trucks in 1892; and in equipping the Worcester road, of which I was and am now superintendent, as above stated, we adopted the Brill "No. 13" truck as the standard for all its single truck cars. This was just prior to December 1892. This Brill "No. 13" truck afforded almost a complete remedy for oscillation, and it was for this reason chiefly that it was adopted as a standard on the Worcester road. This "No. 13" truck, which I now refer to, has two longitudinal side beams supported on the axle boxes by short springs, and supporting two spiral springs adjacent to each axle box, one on each side thereof, and elliptic springs on the outward extensions of the side beams.

This type of truck has gone into universal use under four-wheel cars, and has substantially if not completely displaced all other constructions of single trucks.

From a practical observation, my opinion is that the combination of an elliptic and spiral spring, as applied in trucks of this type, breaks, the rhythm of motion or interrupts it. In trucks with all spiral springs, or I should think if it were possible to construct a truck having all elliptic springs, the rhythm of motion is perfect, the springs acting in unison. In the truck as previously described, having the combination of elliptic and spiral springs, the rhythm is

broken and the result is that the galloping or rocking motion was done away with.

I have been and am familiar with trucks for four-wheel electric cars manufactured by the Peckham Motor Truck and Wheel Company, of Kingston, New York, for several years past I have seen them in operation. They are known in the trade as "Excelsior," "Standard" and "Extra Long."

A combination of elliptic and spiral springs arranged as on said "Standard" and "Extra Long," trucks operates in the same
90 way as the combination thereof arranged as in said "Excelsior" truck and in Brill "No. 13," in my opinion. In all four trucks the rhythm is broken up, and the result is that the rocking or galloping motion is done away with.

JNO. N. AKARMAN.

Sworn to and subscribed before me, this 12th day of October, 1900.

ALBERT H. STONE,
[SEAL.] *Notary Public.*

United States Circuit Court, Southern District of New York. In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS.

STATE OF PENNSYLVANIA, }
County of Philadelphia, } *ss.:*

Samuel M. Curwen, being duly sworn according to law, deposes and says: I am and have been for several years last past in the employ of the J. C. Brill Company, and am familiar with its truck business. I have been and am familiar with the successive issues of the "Street Railway Journal," a trade journal having an extensive circulation.

In the issue of the "Street Railway Journal" for June, 1890, I find an advertisement from the Peckham Street Car Wheel
91 and Axle Company containing a cut of an electric street car truck having the side beams supported on the axle boxes and each in turn supporting six spiral springs two of which are placed on either side of and adjacent to each axle box, and one on each of the outward or end extensions of the side beams, but having no elliptic springs. In connection with this cut are these words:

"Warranted to prevent oscillation of 25-foot cars. The strongest, simplest, easiest riding, and most economical motor truck in existence."

"Cantilever truck supports car bodies, equalizes weight and positively prevents oscillation of cars."

For some years thereafter, and up to October 1895, I find in various issues of the "Street Railway Journal" advertisements of trucks of the last above mentioned method of construction. But for several years past, I believe the advertisement- in the said Street

Railway Journal of the Peckham Motor Truck and Wheel Company do not contain any advertisement of trucks of said method of spring construction.

I have examined the said Street Railway Journal for February, 1893, and on page 73 of the advertisements therein I find an advertisement of The Peckham Motor Truck & Wheel Company, defendant, showing what is there designated as a "5 A. cantilever truck," which is constructed the same as the "Standard" truck. In relation to the said truck it is therein stated:

"Guaranteed to prevent oscillation of 30-foot cars."

"Elliptic and spiral springs so combined to give the utmost elasticity with both light and heavy loads."

I have examined the Street Railway Journal for October, 1896, and find on pages 49, 50 and 51 thereof the advertisement of The Peckham Motor Truck & Wheel Company, defendant. On page 49 of said advertisement there is a cut of a Peckham "Excelsior" truck. In said advertisement it is further stated in connection with the said cut as follows:—

92 "Guaranteed to prevent oscillation of cars and pounding of rail joints."

On page 51 thereof is a cut of a Peckham "Standard" truck, and the said advertisement further states in respect of such truck structure as follows:

"Guaranteed to be easy riding, noiseless and prevent oscillation of cars and pounding of rail joints."

On page 51 thereof is a cut of a Peckham "Extra Long" truck and it is therein further stated that there were then over 5,000 of the said three types of trucks, "Excelsior," "Standard" and "Extra Long," in the cities of New York, Brooklyn, Jersey City, Long Island City, Staten Island, Philadelphia, Baltimore, Richmond, and San Francisco.

I have examined the Street Railway Journal for October, 1895, and on pages A and D thereof, I find cuts representing truck structures the same as these last hereinbefore mentioned, *i. e.*, "Excelsior," "Standard" and "Extra Long," and in connection therewith I find on page B the following:

"Why Peckham's cantilever extension trucks are superior to other trucks.

"4th. Because the elliptic and spiral springs supporting the car bodies are so arranged as to give an easy-riding car, whether light or heavily loaded.

"6th. Because they are positively non-oscillating, noiseless and easy-riding whether light or heavily loaded.

"9th. Because, being flexibly supported, they relieve rail joints, reduce cost of track maintenance and prolong life of car bodies."

I have examined the issue of said Street Railway Journal for December, 1896, and find on page 127 thereof the advertisement of the Peckham Motor Truck & Wheel Company.

The said advertisement contains cuts or drawings of Peckham trucks of the said three forms of construction, and in connection therewith contains the following, viz:

93 "Why Peckham cantilever trucks are superior to other trucks.

"6th. Because the elliptic and spiral springs (supporting the car bodies), being graduated give an easy-riding car, whether light or heavily loaded.

"9th. Because the car bodies being cushioned, are relieved from pounding, blows and oscillation, will last twice as long as any other truck."

(S'g'd) SAM'L M. CURWEN.

Sworn to and subscribed before me this 13th day of October, 1900.

HENRY C. ESLING,
Notary Public.

[SEAL.]

United States Circuit Court, Southern District of New York.

JOHN A. BRILL ET AL.
vs.
PECKHAM MOTOR TRUCK & WHEEL COMPANY ET AL.

STATE OF PENNSYLVANIA, }
County of Philadelphia, } *ss:*

Samuel M. Curwen, being duly sworn *to* according to law deposes and says as follows:

I am and have been for the last eight years past in the employ of J. G. Brill Company and am familiar with street railways generally throughout the United States. Within a period of five years past the Peckham Motor Truck & Wheel Company have sold to the Union Traction Company of Philadelphia, several hundred
94 of the style of truck made by them, known as the "Extra Long" and several hundred of the "Standard" type, in addition to many of their "Excelsior" trucks. The said Peckham Motor Truck & Wheel Company have also sold within the said period a large number of their "Extra Long" trucks to the Metropolitan Street Railway Co., of New York City. Within the three or four years last past, the said Peckham Motor Truck and Wheel Company have sold to the Metropolitan Railroad Co., of Washington, D. C., a number of their "Excelsior" and "Standard" trucks. The Cincinnati Street Railway Co., of Cincinnati, O., have been purchasing from time to time from the said Peckham Motor Truck & Wheel Co., a form of truck which resembles the regular truck made by the said Peckham Motor Truck & Wheel Company and known as "Extra Long." The Boston Elevated Railway Co., and the West End Street Railway Company, their predecessor, and the North Jersey Street Railway Co., of Jersey City, N. J., have purchased from the said Peckham Motor Truck & Wheel Co., within the last five years large numbers of trucks similar to the "Extra Long" and "Excelsior" types of trucks. The Richmond Traction Company, of Richmond, Va., has within five years purchased from the said Peckham Motor Truck & Wheel Company, a number of trucks similar to the "Standard" and "Extra Long" trucks.

(S'g'd) SAMUEL M. CURWEN.

Sworn to and subscribed before me this 13th day of October, 1900.

(S'g'd) HENRY C. ESLING,
[SEAL.] *Notary Public.*

95 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and J. G. BRILL COMPANY
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS.

STATE OF PENNSYLVANIA, *County of Philadelphia,* } *ss:*

Vincent C. Anderson, being duly sworn according to law, deposes and says: I am in the employ of Francis Rawle, Esq., of Philadelphia, counsel for the complainant in the above cause. I have examined the periodical in the office called Street Railway Review, being the number thereof for August 13, 1898. On pages 103 to 110 of the advertisements therein, I find advertisements of the Peckham Truck Company, Havemeyer building, 26 Cortland street, New York. On page 104 thereof, I find a cut of a single truck therein designated as "Excelsior No. 7 B," having spiral springs adjacent to the axle boxes and elliptic springs on the end extension of the side beams.

On page 105, there are three cuts of single trucks denominated respectively "Standard No. 6 A," "Extra Long No. 9 A," and "Extra Strong, Extra Long No. 10."

At the foot of page 104 thereof, below the cut of the truck designated as "Excelsior No. 7 B," I find these words:

"We guarantee these trucks to be superior in strength and easy riding to any other (single) trucks in use, excepting our Standard and Extra Long shown on opposite page."

VINCENT C. ANDERSON.

Sworn to and subscribed before me this 13th day of October, 1900.

HENRY C. ESLING,
[SEAL.] *Notary Public.*

96 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Plaintiffs,
against
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS., Defendants.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

Charles G. Hensley, being duly sworn, deposes and says as follows: I am and have been for about three years a clerk in the employ of Mr. Joseph L. Levy, solicitor for complainant in the suit of John A. Brill *vs.* Third Avenue Railroad Company, in which United States

letters patent No. 478,218, granted to G. Martin Brill, and dated the 5th day of July, 1892, was sued on. I am very well acquainted with the details of that suit, and in a considerable measure with the type of truck described therein; and also the trucks of this type known familiarly as the "Bemis" truck which was used by the defendant in the Third Avenue case; and that made by the Peckham Motor Truck and Wheel Company, of Kingston, N. Y., and known as the "Peckham" truck. My familiarity in these matters comes from various services which I have rendered Mr. Levy for several years last past in connection with the above case, and from examination of these trucks on many occasions.

I depose on information and belief that during the year 1897, a notice was sent by Mr. John A. Brill, one of the above-named complainants, to the Peckham Motor Truck & Wheel Company,
97 requesting it to desist from infringing the above letters patent, and notifying it that as soon as Mr. Brill's rights under this patent *was* determined by suit, which he intended to bring in or about New York, he would proceed against it for infringement.

In response to this letter Charles H. Duell, Esq., who was then (in 1897) counsel for the said Peckham Company, placed himself in communication with Mr. Levy.

During the latter part of the year 1897, Mr. Duell and Mr. Levy were constantly in communication relative to these patents, and had several conferences relative thereto.

On the 12th of November, 1897, after several prior communications, Mr. Duell wrote a letter to Mr. Levy, of which the following is in part a copy:

"My Dear Mr. Levy: I have not yet fully completed my examination of the Brill patents to which you called my attention about a month ago. I have devoted a great deal of time and have had the assistance of others skilled in the art, because it has been my desire to make a full and fair investigation and with the idea of trying to adjust the differences between our clients, provided I found any valid claims in the Brill patents, which were infringed by my client's manufacture.

"While I have not been able to complete my report owing to inability to obtain copies of some foreign patents and publications, yet it has progressed so far that I have come to the conclusion that I must advise my client that it has a complete defense to any suits that may be brought upon any of the patents in question.

"While I should prefer to avoid litigation on account of the expense connected with it, and because my client has no desire to see patents overthrown, yet, if suits be brought, we are prepared to maintain our position at any cost.

"While the prior art is replete with anticipating and limit-
98 ing patents, with many of which doubtless you are familiar, yet in fairness I will call your attention to some of the many patents upon which I shall rely in case of suit.

* * * * * * *

"Referring to Brill patent No. 478,218, I would call your attention to the following patents:

Brill,	No. 373,640, Nov. 22, 1887.
Bemis & Pfingst,	" 410,871, Sept. 10, 1889.
Peckham	" 424,723, Apr. 1, 1890.
Robinson,	" 451,952, May 12, 1891.
Weber,	" 463,738, Nov. 24, 1891.
Bickford,	" 450,608, Apr. 21, 1891.
Ashenfelder,	" 93,945, Aug. 24, 1869.
Manier,	" 409,993, Aug. 27, 1889.
Hubbard,	" 457,740, Aug. 11, 1891.
Baker,	" 354,964, Dec. 28, 1886.
Taylor,	" 437,167, Sept. 23, 1890.
Hunter,	" 431,720, July 8, 1890.
Schoen,	" 255,200, Mar. 21, 1882.
Kirkley & Gray,	" 86,416, Feb. 2, 1869.
Steves.	" 64,378, Apr. 30, 1867.

"I suggest that you look at the specifications as well as the drawings of many of these patents.

* * * * * * *

Awaiting your further pleasure, I remain,
Cordially yours, C. H. DUELL."

I further depose on information and belief, and say, that all of the foregoing patents, except the patent to Hunter, No. 431,720, was before Judge Shipman and considered by him especially the patent to Manier, 409,993, in the said Brill *vs.* Third Avenue Case, and that all of those patents, with the exception of the said Hunter patent are part of the record of that case in this court, they forming part of defendant's record in that case entitled "Defendant's U. S. Patent Exhibits."

99 I further depose and say that on the 9th day of September, 1900, I went to Kingston, New York, and while there, I took a photograph of what appeared to be, and which I believe is a part of the shops of the Peckham Motor, Truck and Wheel Company, showing only a small portion of the building with a sign upon the top thereof which read as follows: "Peckham Motor, Truck and Wheel Company." Said photograph is hereto attached and marked Exhibit "X."

This sign also shows a miniature representation of the Peckham "Extra Long" truck.

On the 13th day of October 1900, I went to the building number 26 Cortland street, New York city, borough of Manhattan, New York, and upon the directory of said building appeared the following: "Peckham Motor Truck and Wheel Company, room No. 1320, E. Peckham room 1320." There appeared on said directory of said building no such names as the following: "Peckham Manufacturing Co." or "Peckham Truck Co." Upon inspecting the door of said room No. 1320, I saw thereon the following: "Peckham Motor Truck and Wheel Company, works, Kingston, N. Y."

I further depose that I have on several occasions within the last

two or three months past served papers in several suits in which said Peckham Company are directly or indirectly interested; and on the 19th day of September, 1900, I personally served papers in an action pending in the United States circuit court, eastern district of New York on said "Peckham Motor Truck and Wheel Co." which service was duly acknowledged.

I depose that from my service in Mr. Levy's office and from other sources of information that the regular and established place of business in the city, county and State of New York of the Peckham Motor Truck and Wheel Company is at 26 Cortland street.

100 I further depose that in the "Street Railway Journal" a monthly periodical published in the city of New York, N. Y. in the issue of October, 1900, and which is devoted to street railroad business, appears an advertisement on pages 266 and 267 thereof in which is shown cuts of the "Excelsior" "Standard" and "Extra Long" truck, exactly as is illustrated and entitled in the drawings attached to the Benjamin affidavit herein.

Upon the frame of said trucks, in said publication, directly over the axle boxes appears the words: "Manufactured by Peckham Motor Truck and Wheel Co., Kingston, N. Y." evidently cast in the metal.

CHARLES G. HENSLEY.

Sworn to and subscribed before me this 15th day of October, 1900.

BENEDICT S. WISE,
Notary Public, N. Y. Co.

[SEAL.]

(Here follows photograph marked p. 100.)

101 Circuit Court of the United States, Southern District of New York. In Equity.

JOHN A. BRILL and J. G. BRILL CO., Complainants,
vs.
PECKHAM MOTOR TRUCK & WHEEL CO. ET ALS., Defendants.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

Charles W. Benjamin, having been duly sworn according to law, deposes and says as follows:

I live in the city of Brooklyn, county of Kings and State of New York. I am about 43 years of age. I am by profession a mechanical draughtsman, and have been continuously engaged in making drawings for various purposes, including the Patent Office, both from the actual machines or structures themselves, and from prints or sketches, &c., for at least twenty-three years.

I have for a number of years last passed been familiar with the construction of our trucks, most especially for street car service, having made a large number of them for Patent Office drawings, which trucks were of the single, four-wheel, and of the pivotal type.

I have also become familiar with the type of truck shown, described and claimed in the patent to G. M. Brill, No. 478,218, dated July 5, 1892, I having made drawings in which this type of truck was illustrated on many occasions; and I have also made
102 drawings of the "Bemis" truck of this type which was involved in the suit of John A. Brill, complainant, against Third Avenue R. R. Co., defendant, in this district said drawings having been offered in evidence, and entitled "Complainant's Exhibits, Benjamin Drawings, Nos. 1, 2, and 3," in which suit I have testified to having made the drawings directly from the trucks; and as to their accuracy.

I am familiar with the type of truck in use by the Metropolitan Street Railway Co. and Third Avenue R. R. Co., operated on cars in the city of New York, borough of Manhattan, and county and State of New York, among which are trucks known as the "Peckham" trucks, by reason of the fact that I have seen "Peckham Motor Truck & Wheel Co., Kingston, N. Y." cast upon the axle-box yokes, or pedestals.

I further depose that on and between the 1st and 7th days of October, 1900, I visited the car shops of the Metropolitan Street Railway Co. and of the Third Avenue R. R. Co., in the city of New York, and there made drawings to scale of the three "Peckham" trucks, upon which I saw the words as above stated, examining the parts of the truck as closely as I could, where they were accessible, the car bodies being then upon them, and made drawings thereof.

I depose, upon information and belief, that these trucks are known in the trade, and I have verified this by comparison of the same with the advertisements of the Peckham Motor Truck & Wheel Co., in the various issues of the Street Railway Journal, a periodical published in New York city, and devoted to street railway interests, as the "Excelsior," "The Standard" and the "Extra Long."

The "Excelsior" is constructed with four spiral springs on each side extending between the axle-box frame and the upper chord of the truck or car sill, two of which are located at each side of the axle-box pedestals or yokes, and with a single elliptic spring at each end of the axle-box frame, extending between that end and the upper chord or car sill.

103 The truck thus constructed, I have entitled in the drawings by the name of "Excelsior."

The other sheet of drawings illustrates the "Extra Long" and "The Standard."

As to the car springs, "The Standard" has two spirals on each side seated on the axle-box frames, closely adjacent and within the pedestals, a spiral spring at each end of the frame, and an elliptic spring between the pedestals and the latter spital springs.

The "Extra Long" differs from the "Standard" in that the axle-box frame is extended out beyond the axle-box yokes or pedestals further than in the "Standard" and has two spiral springs at each end of the axle-box frame instead of one. In both "The Standard" and the "Extra Long," the posts passing through the spiral springs next adjacent the outer ends of the elliptic springs, pass downwardly through the axle-box frame extension, and carry a spiral spring thereon.

Instead of the original drawings which I have made on a very large scale, for the purpose of permitting them to be reduced without material loss of detail, I attach hereto, and which forms part of my affidavit, photolithographic copies of the same.

I depose that the photolithographic copies thereof are clear and accurate reproductions of the drawings.

However, as to the parts illustrated, I am familiar with them, and am positive that they are as I have illustrated them in the drawings.

(Signed) CHAS. W. BENJAMIN.

Sworn to and subscribed before me this 13th day of October, 1900.

BENEDICT S. WISE,
[SEAL.] *Notary Public, N. Y. Co.*

(Here follow drawings marked pp. 104 & 105.)

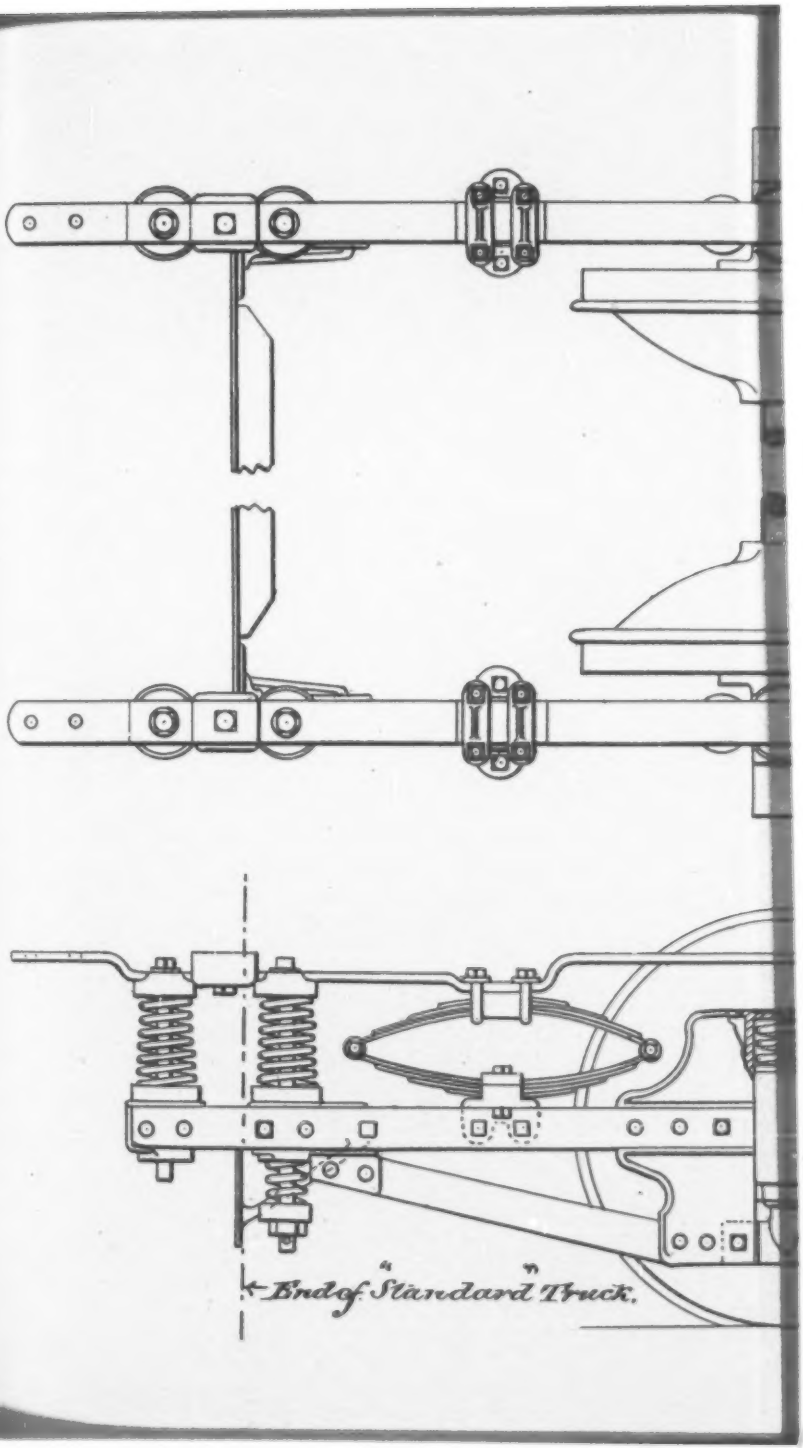
106 United States Circuit Court, Southern District of New York.
In Equity.

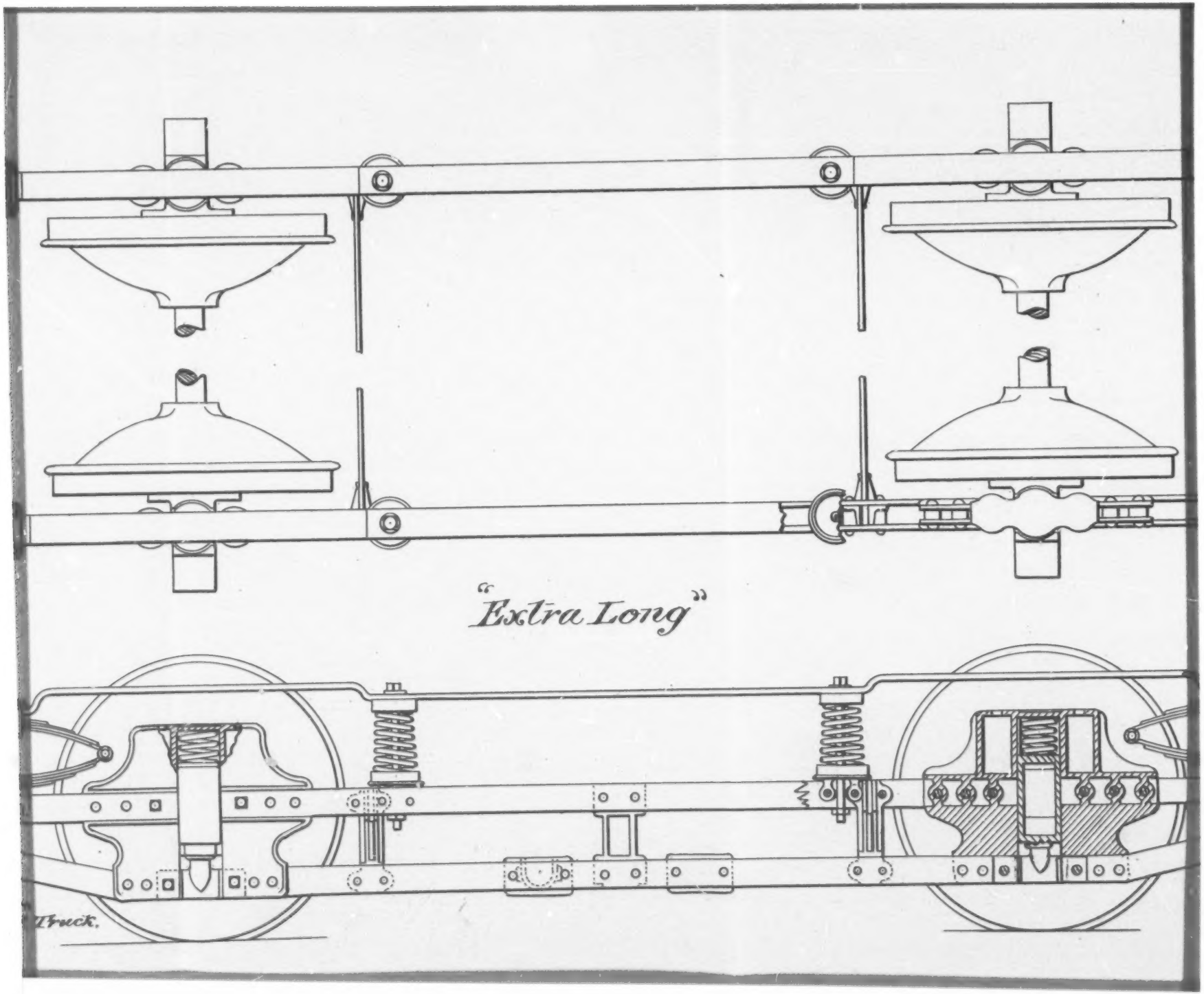
JOHN A. BRILL and THE J. G. BRILL COMPANY
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL CO. ET ALS.

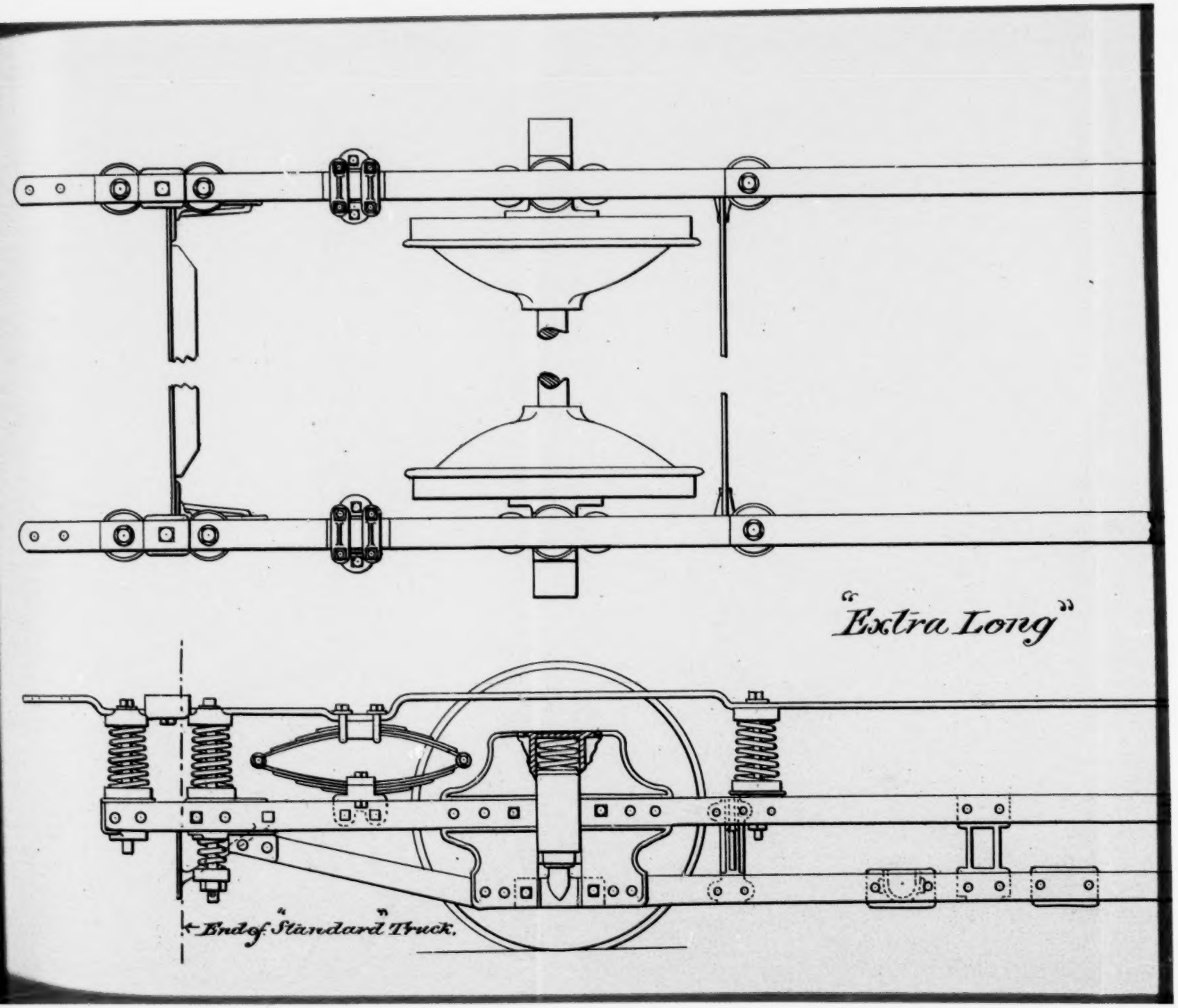
Affidavit of Joseph P. Livermore.

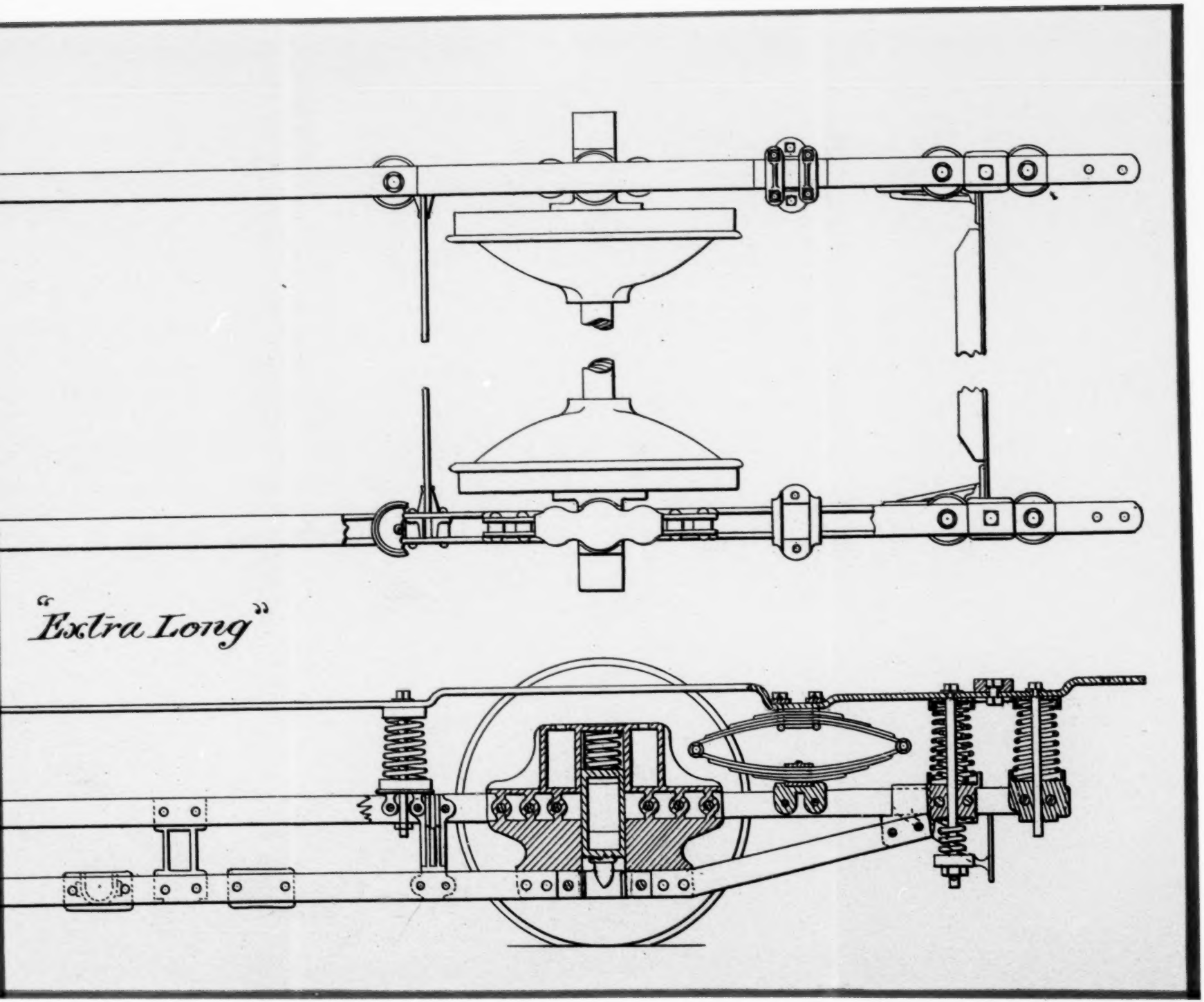
I am forty-five years old, reside in Cambridge, Massachusetts, and am a solicitor of patents and mechanical expert, and have my office at Boston, Massachusetts.

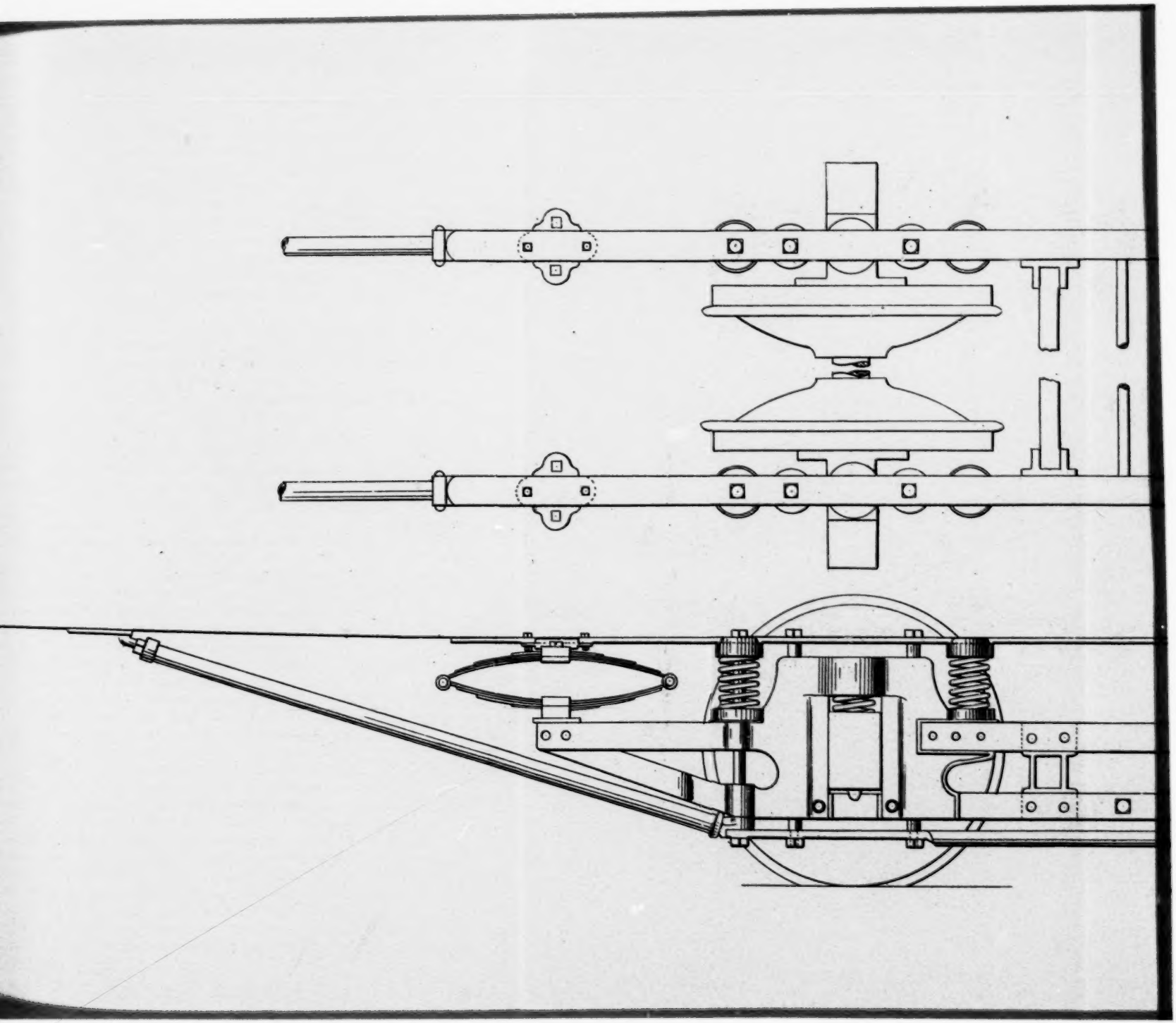
I studied mechanics and draughting at the Lawrence scientific

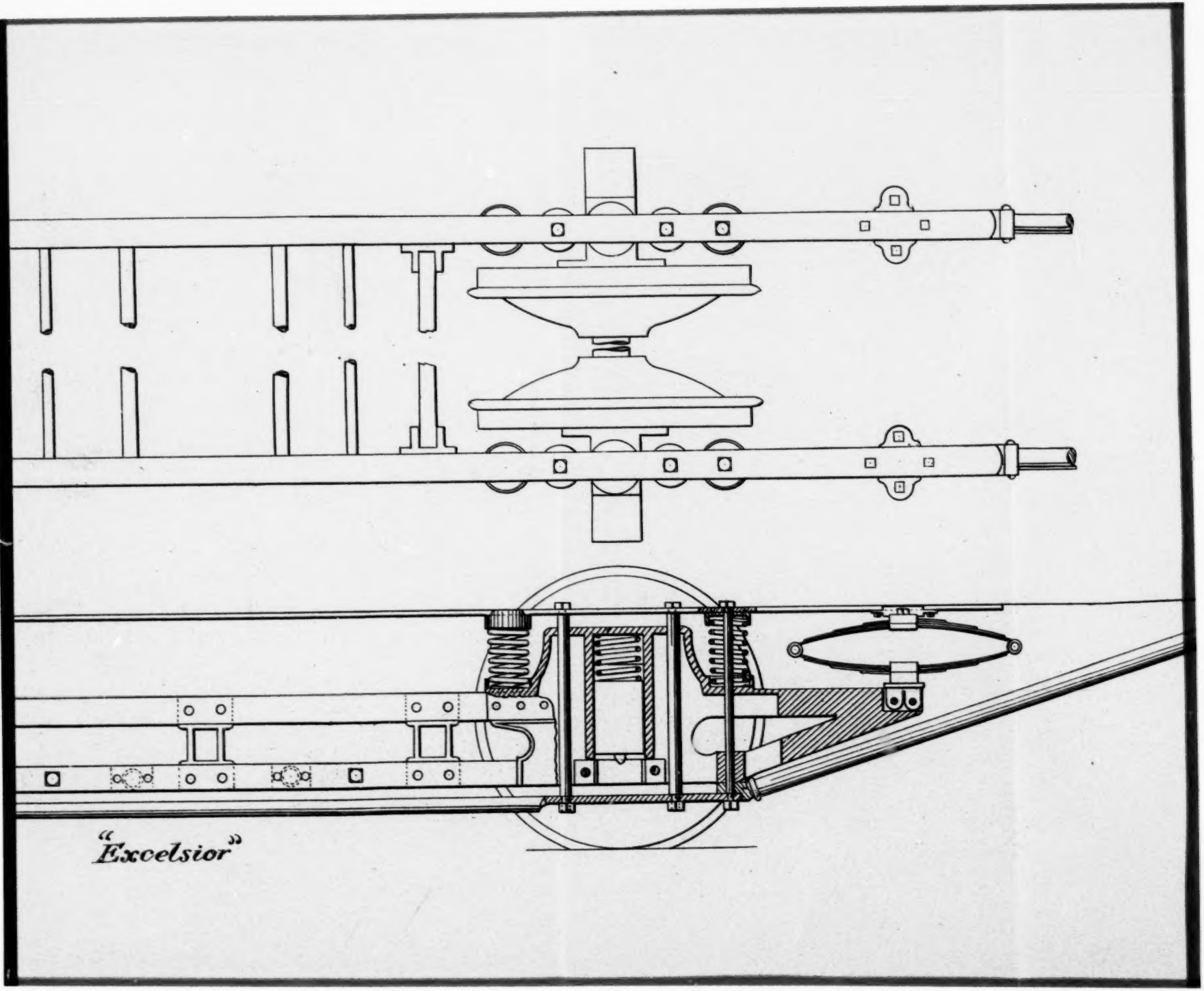

End of "Standard" Truck.


"Extra Long"
Truck.


"Extra Long"
← End of "Standard" Truck.


"Extra Long"





"Excelsior"

school of Harvard university, at which school I was graduated as civil engineer in 1877, having previously been graduated at Harvard college in 1875. I have been practising as solicitor of patents since 1879, and have constantly been called upon to examine machinery and apparatus of various kinds, and descriptions and drawings thereof, for the purpose of ascertaining and pointing out substantial resemblances and differences in construction and mode of operation of the contrivances therein embodied or represented. During the past twelve years or more, much of my time has been employed in the examination of letters patent for the purpose of advising with reference to the nature and scope of the invention therein set forth, and I have very frequently testified as expert in patent cases.

I am familiar with U. S. letters patent to George Martin Brill, No. 478,218, for car trucks, and I testified as expert on behalf of complainants in the case of John A. Brill *vs.* Third Avenue Railroad Company in the circuit court of the United States in the southern district of New York, which case was heard before his honor
107 Judge Shipman, who rendered an opinion in that case sustaining the validity of the patent and finding that claims 1, 2, 9, 10, 11, 12, 14 and 27 were infringed.

I have examined three cuts representing car trucks, printed on page 135 in the advertising matter of the Street Railway Journal of December, 1897 (vol. 13, page 12), said page bearing the name of "The Peckham Truck Co.," and the said three cuts or illustrations being accompanied by the designating words "Excelsior," "Standard," and "Extra Long," respectively.

I understand the construction and mode of operation of the trucks represented in said illustrations in all essential matters, and, for convenience, will hereinafter refer to them as the Peckham trucks, distinguishing the different constructions by the designating terms used in connection therewith in the advertisement.

I am of the opinion that the said Peckham "Excelsior" truck embodies essentially the construction shown and described in the Brill patent No. 478,218, above mentioned and referred to in claims 1 and 2 thereof, and that the Peckham "Standard" and "Extra Long" trucks clearly embody the construction which is literally set forth in claim 1, of said Brill patent, and also embody a substantial equivalent for the combination recited in claim 2, of said Brill patent, said claims 1 and 2 referring to the main invention forming the subject of the Brill patent, or describing the gist of that invention, as stated by his honor Judge Shipman in the case against the Third Avenue Railroad Company, the remaining claims forming the subject of that case being directed to subsidiary features of construction or arrangement not essential to the embodyment in a truck of the main or primary invention forming the subject of claims 1 and 2.

Before comparing each of the said Peckham trucks in detail with the structure shown and described in the said Brill patent, I will explain the nature of the invention forming the subject of the said

Brill patent and the construction and mode of operation of
108 the truck shown and described in the patent as a complete embodyment of the invention, being a construction by which the result sought to be attained by the invention is adequately produced.

The said patent shows and describes a car truck of the kind employed for street railway cars, and, as stated in the prefatory part of the specification, the main object of the invention "is to enable a truck of comparatively short wheel base to be used and to support a car body upon it, the ends of which overhang the end of the truck for some distance." Furthermore, it is stated that the "invention is also intended to overcome, in a measure, the end vibration or oscillation of the car body and movable portion of the truck to which the car is secured."

The invention is embodied in a structure in which the car body is supported upon a single four-wheel truck and is intended to overcome an objection to that type of truck which was greatly magnified when, by the introduction of electric motors or the cable system, it became desirable to use much larger car bodies than are commonly used when street cars are drawn by horses. By reason of the sharp curves which are required in street railways, it is impracticable to greatly lengthen the wheel base, that is to widely separate the two pairs of wheels which form a truck, and consequently when a long car body is used it must overhang or project a considerable distance at each end beyond the points of support provided by the wheels resting on the track. As a result of increasing the length of the car body with relation to the length of its base support, there is a tendency to increase the fore and aft oscillation or pitching movement of the car body upon its supporting springs, and as stated in the matter above quoted, the invention of the Brill patent in suit is intended to overcome, in a measure, that is to reduce, such end vibration or oscillation of the car body.

The construction by which the above-named object, that is, the effective support of a long car body on a relatively short
109 wheel base and the prevention of excessive oscillation of such car body, is attained, is as follows: Substantially directly upon the axle boxes, which rest upon the wheel journals, are supported, one at each side of the truck, rigid longitudinal side beams, comprising saddles which embrace and derive their support from the axle boxes, which side beams thus serve to connect and determine the position of the axle boxes at the two ends of the truck, and also extend lengthwise of the truck a considerable distance beyond the wheels at each end of the truck, thus affording a longer base of support for the car body than would be the case if the car body were supported directly upon the journal boxes, or upon saddles supported on the journal boxes. This pair of longitudinal side beams, which may or may not be connected together by tie rods or braces transverse to the truck, constitute what is called in the patent the "independent frame," as said frame rests substantially directly upon the journal boxes and does not partake of the vertical movement of the car body due to the action of the

springs that support the latter. The independent frame does not rest rigidly upon the journal boxes, but heavy springs or cushions are interposed between the journal boxes and the independent frame, the patent stating that the saddles are "supported on the axle boxes either rigidly, flexibly, or in such manner as to be capable of movement in the line of the axle." The car body is supported upon the independent frame through the intervention of springs of special character and arrangement, with a view to checking the end oscillation or pitching movement of the car body, while at the same time affording the usual elastic and easy support for the car body, by which the said car body and the occupants thereof are protected from the jarring and pounding that would be experienced if the car body were not spring-supported.

The car body rests upon the springs through the intervention of spring plates that seat upon the upper ends of the springs, and, as shown in the patent, said spring plates are secured to a rectan-
110 gular frame called the "upper chord," which is connected by "spring posts" fastened to said spring plates with longitudinal brace pieces below the independent frame, said upper chord, spring posts and braces thus constituting a frame upon which the car body is rigidly secured, said frame thus partaking of the vertical spring movement of the car body, and being called in the specification the "movable portion" of the truck structure. It is pointed out in paragraph beginning line 91, page 3, that the "upper chord" may be omitted without departing from the invention, in which case the spring plates and spring posts are secured directly to the sill of the car, which thus becomes itself the upper chord of the movable frame or movable portion of the truck structure.

The character and arrangement of the springs shown in the drawings of the Brill patent as employed in combination with the structural elements of the truck which I have thus far described are as follows: At each side of each saddle that embraces and is supported on the corresponding journal box there is a spiral spring interposed between the saddle and the spring plate above mentioned, upon which the car body is rigidly secured, there being, therefore, at each side of the car two spring plates, one over each axle box, and four spiral springs, two between each spring plate and corresponding saddle, the said set of eight springs for the car being called in the patent the axle-box springs. The length of base of support of these axle-box springs is therefore substantially equal to the length of wheel base and is insufficient to properly support a car body which is very considerably longer than the wheel base, and, as stated in paragraph beginning with line 76, page 1, of the specification of the patent in suit, attempts have been previously made to overcome this objection by employing additional springs of the same character as the axle-box springs, interposed between the extensions of the independent frame of the truck and the car body, between the wheels and the extreme end of the car. It is also pointed out that such construction has not been found to work satisfactorily and that the objection is overcome by the employment of springs of a dif-
111 ferent character from the axle-box springs between the car body and the extensions of the independent frame, said addi

tional springs being elliptical springs, which are slower in their action than the axle-box spiral springs and thus serve to neutralize the longitudinal vibration or pitching movement of the car body, which becomes very excessive and objectionable when the springs that support the car body are all of the same character.

That portion of the invention of the patent in suit which consists in the combination with the frames of the truck structure thus far described, of the sets of springs of a different character arranged as described, to neutralize the tendency toward longitudinal oscillation of the car body upon said supporting frame, is what I understand is referred to in claims 1 and 2 of the patent in suit.

The subsidiary features which I have above referred to may be briefly described as follows: One of the said features forming the subject of claims 9, 10, 11 and 14 of the Brill patent, consists in so arranging and proportioning the springs that the slow-acting elliptical springs will not come into play until after the axle-box springs have begun to compress, and the action of the spirals in lifting the car body is continued after the elliptical springs have ceased to act. Another feature forming the subject of claims 12 and 27 resides in the details of construction of the parts by which the elliptical springs are connected and engaged with the frames with which they co-operate.

Referring now to the three Peckham trucks, I will first describe the characteristics of construction common to all three, by reason of which I regard all of them as embodying the subject-matter of claim 1 of the Brill patent, and will thereafter refer to the differences in detail of construction or arrangement exhibited in the three Peckham trucks, and give my reason for regarding such variations as not constituting a substantial departure from the subject-matter of claim 2 of the Brill patent.

112 Each of the said Peckham trucks is a single four-wheeled truck for supporting a car body which is very long in proportion to the length of wheel base of the truck. The said truck comprises a pair of rigid longitudinal side beams, constituting an "independent frame" having saddles which embrace and are supported on the axle boxes through the intervention of short stout springs which give a slight yielding movement of the independent frame with relation to the axle boxes, although said frame is independent of the movement of the car body, which is spring-supported upon it. The said side beams of the independent frame have longitudinal extensions beyond the axle boxes at both ends of the truck, thus affording a longer base of support for the car body than would be the case if the car body were supported directly upon the journal boxes, or upon saddles resting on the journal boxes.

The car body is supported upon the independent frame through the intervention of springs of the same character as the springs shown and described in the Brill patent, as explained in my last answer. That is, there are two sets of springs differing in character and in the quickness of action, so that each tends to give a different period of oscillation of the car body from the other, and thus the effect of one set of springs tending to produce a constantly increas-

ing amplitude of oscillation if the car should be acted upon by a series of impulses, such, for example, as in passing over the consecutive rail joints, is neutralized by the other set of springs, which are of such character as not to produce a period of oscillation in harmony with the said impulses.

The two classes of springs employed in the Peckham trucks are of the same specific kind as those shown in the Brill patent, one class being composed of spiral springs so arranged as to have the weight of the car body distributed over them, and the other springs are elliptical springs, which are slower in action than spiral springs, and are placed between the car body and the end extensions of the side beams of the independent frame, where they are most
113 effective in tending to check vibrations and thus to prevent the car body from acquiring a longitudinal oscillation or galloping movement.

All three of said Peckham trucks, therefore, embody the construction; that is, the combination and arrangement of elements shown and described in the patent in suit, and literally recited in claim 1 thereof, namely, the independent, stationary, or spring-supporting frame, itself supported upon the running gear (that is, the wheels and axle boxes), said frame having saddles and end extensions beyond the said saddles; and a movable frame having like extensions (*i. e.*, the sill, spring plates, posts, and longitudinal brace), and spiral and elliptical springs between said frames and the elliptical springs being interposed between the extensions at the ends of the independent frame and the corresponding overhanging extension of the movable frame.

Referring now to the specific construction embodied in each of said Peckham trucks, it will be observed that the one represented in the cut, entitled "Excelsior," has the springs in the same arrangement as shown in the drawings of the Brill patent; that is, the spiral springs are interposed between the saddles of the independent frame (one at each side of each axle box), and the spring plates of the movable frame, while the elliptical springs are arranged between the end sections of the independent frame and the overhanging part of the movable frame, being the endmost springs of the entire set of springs supporting the car body.

In the Peckham truck illustrated in the cut, designated by the name "Standard," there is a variation from this arrangement, so far as relates to the location of the spiral springs. Instead of having a pair of spiral springs over each axle-box saddle, the spiral springs at the inner side of the axle box, that is, toward the middle of the length of the car, are a little further removed from the axle-box saddles than in the Peckham "Excelsior" truck and as shown in the drawings of the Brill patent, while the spiral springs at the outer sides of the axle boxes are placed at the extreme outer end
114 of the extension of the independent frame, being just outside of or beyond the elliptical springs towards the end of the car.

In the Peckham truck shown in the cut designated by the name "Extra Long," the arrangement is the same as in the "Standard," except that a pair of spiral springs instead of a single one is

used at each extremity of the extension of the independent frame, and thus outside of the elliptical springs.

This variation in the arrangement of the spiral springs which is exhibited in the "Standard" and "Extra Long" Peckham trucks is, in my opinion, a wholly immaterial departure from the construction shown and described in the Brill patent and referred to in claim 1 thereof.

Claim 1 is as follows:

"1. In a motor truck, the combination with a stationary frame supported upon the running gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame, substantially as described."

It is to be observed that in claim 1, the specific arrangement of the spiral springs (*i. e.*, their location or distribution along the space between the independent and movable frames) is not specifically referred to. Furthermore, the specific arrangement or distribution of the spiral springs shown in the drawings of the Brill patent is not essential to the proper co-action between the spiral springs and the elliptical springs for attaining the desired result of neutralizing the tendency to oscillation and therefore preventing the car from acquiring an excessive longitudinal oscillation or rocking or galloping movement. Clearly, therefore, the Peckham trucks embody the substance of the Brill invention and are literally covered by the language of claim 1 of the Brill patent.

Claim 2 of the Brill patent is as follows:

"2. In a truck, a spring-supporting frame supported upon a running gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, substantially as described."

In claim 2, the spiral springs are referred to as located between the saddles and movable frame. The saddles and stationary frame constitute substantially a single rigid structural element, and it is immaterial whether the springs rest directly upon the saddles or upon the frame adjacent to the saddles. It is only necessary that they should be distributed sufficiently lengthwise of the independent frame and car body to form an efficient and stable support for the car body. For this reason, I regard the arrangement embodied in the Peckham "Standard" and "Extra Long" trucks, in which the inner spiral springs are arranged on the independent frame close beside, instead of directly upon, the axle-box saddles, and the outer spiral springs are arranged at the extreme ends of the independent frame, as being a substantial equivalent for the arrangement recited in claim 2, so far as the following elements, viz., spring-supporting frame supported upon the running gear by saddles, and the movable frame, and interposed spiral springs—are concerned, and said Peckham trucks clearly contain these elements

in combination with the elliptical springs, which combination is the characteristic or novel feature of the Brill truck. Furthermore, both such arrangements of the spiral springs between the independent frame and the car body were well known in the art prior to the time of the Brill patent in suit, the subject-matter of claim 2 of which depends for its novelty upon the combination of such arrangement of frames and spiral springs with elliptic springs, which, by reason of their difference in action, neutralize the effect of the spiral springs in setting up an oscillatory movement of the car body, without impairing their effect in cushioning the car body from the shock to which the wheels are subjected.

116 It is clear that both the Peckham "Standard" and "Extra Long" trucks have elliptic springs, combined with the spiral supporting springs, and arranged as shown in the Brill patent over the end extensions of the independent frame, and thus near the ends of the car body, where they will be effective in checking the rocking movement of the car body. It seems obvious that there is no reason for adopting the elliptical springs in these Peckham trucks other than in order that they may co-operate with the spiral springs in order to prevent excessive endwise oscillation or galloping movement of the car body, the same as is done by the like combination of elliptical and spiral springs in the specific arrangement shown in the drawings of the Brill patent.

Except for the immunity against excessive endwise oscillation, the spring system composed entirely of spiral springs (which was well known long prior to the time of the Brill patent in suit, and in both of the arrangements illustrated in the Peckham "Excelsior" and Peckham "Standard" trucks) was as effective in cushioning the car body and making an easy-running car as the combinations of spirals and ellipties which characterize the spring system of the truck of the Brill patent in suit.

In this connection, it is to be observed that in the Peckham "Standard" and "Extra Long" trucks there is an additional spiral spring near each end of the independent frame but below the same, so that it acts with a spring resistance to oppose upward movement of the adjacent ends of the car. This was an expedient that had been devised prior to the date of application of the Brill patent in suit, with a view to diminishing the oscillation of car bodies by resisting their upward movement, but which has been found, in practice, to be ineffectual for accomplishing the desired result. The employment of the elliptic springs in the Peckham truck in addition to the underlying checking springs, as I will call them, that I have last referred to, is in itself a strong indication that the said underlying checking springs are wholly inadequate to pre-

117 vent excessive oscillation of the car body, if they are not, indeed, wholly without any effect whatever in that direction.

For the above reasons, I am of the opinion that the variation in distribution of the spiral springs along the length of the car exhibited in the Peckham "Standard" and "Extra Long" trucks, as compared with the specific arrangement employed in the Peckham "Excelsior" truck, and shown in the drawing of the Brill patent in

suit, does not constitute a substantial departure from the construction forming the subject of the said Brill patent, and that all of the Peckham trucks clearly embody essentially the construction recited in claims 1 and 2 of the Brill patent, having substantially the same combination and arrangement of elliptic springs and spiral springs and related parts operating in the same manner and producing the same result.

I have not overlooked the fact that in the Peckham trucks the elliptic springs are connected with the upper chord or movable part of the truck frame so that the car body cannot rise off from the elliptic springs, as might be the case in the specific construction shown and described in the Brill patent. This feature is material only in connection with the subject-matter of the claims relating to the subsidiary features of the Brill invention before referred to. The connection of the elliptic springs with the upper chord or car body does not impair their action in conjunction with the spiral springs in neutralizing the tendency of the car body to acquire an oscillatory movement of considerable amplitude, as the agency of said elliptic springs, in accomplishing this result, is mainly developed in the compressive action of said springs, due to the downward movement of the overhanging end of the car body, as it tends to initiate the oscillatory movement, and in the subsequent rising movement of the car body, due to the expansion of the springs which were excessively compressed in the downward movement.

The downward movement of one end of the car body below the point at which its weight is in equilibrium with the force of
118 spring tends to produce an upward movement at the other end of the car body, relieving the springs at that end momentarily of a portion of the weight that they normally carry. With the old form of spring support, successive repeated impulses would cause so great a rocking movement of the car that the springs at one end might be practically entirely relieved of weight and the car body actually rise from some of them. In such event a spring, if connected at its upper end with the car body might be momentarily subjected to an expansive strain.

The specific construction shown in the Brill patent in which the elliptic springs are not attached to the car body precludes the possibility of said elliptic springs being subjected to an expansive strain, under any circumstances; but their effect in checking the vibration of the car is such that it would never attain such amplitude as to raise either end of the car body wholly off from the springs or subject the springs to expansive strain if said springs were so arranged as to be normally compressed under the normal load of the car (*i. e.*, without reference to any special shock affecting one end thereof in advance of the other end). It is therefore only when the car is subjected to some unusually great disturbance, as in passing over a very bad rail joint or possibly over some obstacle on the track, that the springs at one end might be subjected to expansive strain which would effect the elliptic springs in the Peckham construction, but would not effect them in the specific construction shown in the Brill patent.

In what may be regarded as the normal operation of the elliptic springs in preventing a pitching movement of the car from acquiring a rhythmical action and consequently increasing in amplitude, the springs when connected with the car body, as in the Peckham trucks, have the same effect as when not so connected, as is the case in the construction shown in the Brill patent.

Furthermore, this effect is the same, whether the spiral springs are all included in the space between the elliptic springs, as in the
119 construction shown in the drawings of the patent in suit, and embodied in the Peckham "Excelsior" truck, or whether a portion of said spiral springs are located at the extreme ends of the stationary frame and are thus outside of the elliptic springs, as in the Peckham "Standard" and "Extra Long" trucks.

I am familiar with the state of the art relating to the subject-matter of the Brill patent in suit, as offered in evidence on behalf of defendants in the case against the Third Avenue Railroad Company, before referred to. A very large number of patents was offered in evidence in that case, only comparatively few of which have, so far as I can see, any bearing whatever upon the subject-matter of the Brill patent in suit, and none of which contain any suggestion whatever of the employment of two classes of springs acting in conjunction with one another to support the car body in such manner as to fully cushion the movements of the same and to prevent excessive longitudinal vibration or rocking movement of the car body upon the single supporting truck of relatively short wheel base.

I will add that I know nothing in the prior art which has any closer bearing upon the subject-matter of the Brill patent than the patents and publications put in evidence on behalf of the defendants in the case against the Third Avenue Railroad Company. For convenience, I will collect the patents of the prior art into groups and make such comparison as may be necessary with the Brill patent in suit, referring to matters which are common to all of the patents in the group under consideration, and thereafter will quote the opinion of his honor Judge Shipman as to the individual patents which he regarded as sufficiently pertinent to warrant some comment on his part.

Pivotal Trucks.

Steves, No. 64,378, April 30, 1867.
Kirkly & Gray, No. 86,416, Feb. 2, 1869.

The above two patents, as well as the illustration Fig. 66, 67 and 69 in Knight's Mechanical Dictionary, and an illustration
120 in the Railroad Gazette of 1888 show pivotal trucks such as are employed where the car body is supported upon two trucks, one at each end, said trucks having a pivotal or swiveling movement about a vertical axis to accommodate themselves to the curves in the track. Such trucks usually comprise in their organization various springs and frequently several kinds of springs, as, for example, in the Kirkly & Gray patent there are rubber springs F and spiral springs K, while in the illustration, of a similar truck

in the Railroad Gazette, there are elliptical springs and spiral springs. These different springs are not employed for the purpose of checking oscillation, and afford no suggestion of a combination or arrangement of such springs by which oscillation could be checked.

The different classes of springs in this structure are not interposed between the same frames so as to act conjointly thereon, but one set of springs supports one frame or element of the structure, while the other set supports another frame or element of the structure, each set of springs carrying or sustaining substantially the whole weight of the car body. When the car body has an independent support near each end, as is the case where pivotal trucks are used, there is no tendency to set up the rocking or galloping movement that caused so much difficulty with cars supported upon a single truck, and there is nothing in these pivotal truck structures, which, so far as I can see, has any bearing or throws any light whatever upon the invention forming the subject of the Brill patent in suit. This class of structure was not referred to by his honor Judge Shipman, as it evidently has no pertinence or relevancy whatever to the Brill invention.

Springs.

Vose, No. 199,945, February 5, 1878.
Vose, No. 214,328, April 15, 1879.
Vose, No. 214,329, " " "
Vose, No. 330,445, November 17, 1885.
Vose, No. 347,281, August 10, 1886.
121 Vose, No. 348,251, August 31, 1886.
Vose, No. 350,174, October 5, 1886.
Vose, No. 351,819, November 2, 1886.
Schoen, No. 255,200, March 21, 1882.
Diehl, No. 296,272, January 15, 1889.
Howard, No. 396,694, January 22, 1889.

The above patents were cited in the case against the Third Avenue Railroad Company mainly as bearing upon the subject-matter of claims 9, 10, 11, and 14 of the patent in suit. They merely show springs so arranged that additional springs are brought into action only after the springs first operated upon have been to some extent compressed; but they have, in my opinion, no bearing whatever upon the subject-matter of the Brill patent, and certainly none upon the subject-matter of claims 1 and 2 thereof. They were referred to by his honor, Judge Shipman, only in connection with claims 9, 10, 11, and 14, and were held not to anticipate even the subject-matter of those claims.

Simple Single Four-wheeled Trucks.

Baker, No. 354,964, December 28, 1886.
Brill, No. 357,811, February 15, 1887.
La Mothe, No. 402,169, April 30, 1889.
Peckham, No. 417,937, December 24, 1889.

The above patents merely show the early construction adopted in street cars where the car body was not of excessive length and was supported upon the springs themselves sustained directly upon the axle boxes or saddles resting upon the latter. This construction may be regarded as the basis of the numerous improvements that were subsequently made in trucks with a view to enabling longer car bodies to be successfully carried upon single four-wheeled trucks.

The Brill patent included in the above list was referred to in the opinion of his honor, Judge Shipman, but only with reference to claims 9, 10, 11, and 14, his finding being that "the Brill patent is unimportant in this connection."

122 *Four-wheeled Trucks with Additional Frame not Serving as an Extended Spring Base for the Car Body.*

Brill, No. 432,115, July 15, 1890.
Bemis, No. 373,635, Nov. 22, 1887.
" No. 405,691, June 25, 1890.
" No. 413,890, Oct. 29, 1889.
Bemis & Pfingst, No. 402,890, May 7, 1889.
" " No. 410,871, Sept. 10, 1889.
" " No. 449,382, Mar. 31, 1891.

The above patents show trucks having an independent frame connecting the axle boxes, but not utilized as a substantially extended or lengthened spring base for the car body, which is supported upon said frame by springs of one class (spiral springs), substantially the same as if no independent frame connecting the axles were employed. It is clear that none of these patents has any substantial bearing upon the subject-matter of claims 1 and 2 of Brill patent in suit, as hereinbefore explained by me.

None of these patents were individually mentioned or referred to in the opinion of his honor Judge Shipman, they being evidently too remote from the subject-matter in issue to require any consideration.

Trucks Having Independent Frame Constituting an Extended Spring Base for the Car Body.

Ashenfelder, No. 9,345, August 24, 1869.
Brill, No. 373,640, November 22, 1887.
Brill, No. 418,441, December 31, 1889.
Manier, No. 409,993, August 27, 1889.
Manier, No. 412,640, October 8, 1889.
Bird, No. 426,031, September 9, 1890.

Taylor, No. 437,167, September 23, 1890.
Bickford, No. 450,608, April 21, 1891.
Robinson, No. 451,952, May 12, 1891.
123 Hubbard, No. 457,740, August 11, 1891.
Peckham, No. 419,876, January 21, 1890.
Peckham, No. 424,723, April 1, 1890.
Peckham, No. 464,253, December 1, 1891.
Peckham, No. 471,061, March 15, 1892.

The above patents all show a construction employing a substantially rigid frame supported upon the axle boxes and extending beyond the same lengthwise of the car, so that said frame is longer than the wheel base of the car, and affords an extended base or support for the springs upon which the car body rests. This construc- undoubtedly gives a more stable support to the car body than when the latter is supported only over the axle boxes, and it was expected by the inventors in many cases to overcome, in a measure, the oscillating or rocking and galloping motion of the car.

This entire series of patents, however, exhibits no substantial advance over the Ashenfelder patent of 1869 in the matter of devising a spring system that would effectively check the tendency to excessive rocking motion or endwise oscillation of the car. None of said patents show the combination of two classes of springs arranged as in the Brill patent in suit to neutralize one another in the tendency to amplify the rocking motion of the car. Springs of various kinds, however, were used for supporting the car body, such, for example, as the rubber springs shown in the Ashenfelder patent, and Brill patent No. 418,441, the elliptical springs shown in the Taylor patent, and the spiral springs which were most commonly used.

The Manier patent No. 409,993, was given considerable attention in the case against the Third Avenue Railroad Company, because in said patent both spiral springs and elliptical springs were shown as the support for the car body, and it was urged on behalf of defendants that the Manier patent discloses the conjoint use of both kinds of springs in one structure.

124 The Manier patent and others in this group that were especially referred to by the defendant in the Third Avenue Railroad Company case, so far as they are relevant to the subject-matter of claims 1 and 2, were thus dealt with in the opinion of his honor Judge Shipman:

"Upon the question of the novelty of the invention described in claims 1, 2, 11, 12, and 14, the defendant's expert puts great stress upon letters patent No. 409,993, dated August 27, 1889, to Benjamin F. Manier. One object of Manier was to prevent oscillation, and to accomplish it he employed an extended spring base and mounted the body springs forward of the axles. He said that oscillation was noticeable in cars mounted on trucks wherein the body springs are on both sides of the axles and near the centre of the truck, and that the mounting of the body springs forward of the axles, he considered a special feature of his invention. The springs, or the kind of springs, which he was to use are no part of his invention. He says

'Preferably, I employ spiral springs G, as shown in Fig. 1 for supporting caps 1, but if desired, the elliptic springs *g*, could be employed, as shown in Fig. 3, or other forms of springs may be used as found convenient and desirable, the particular form of spring not forming part of present invention.' Manier's invention was entirely apart from that of Brill, and had no conception of its character. The only ground upon which the expert can place his theory is that in Fig. 3 the two different forms of springs, spiral and elliptic, are shown, and upon this drawing the entire superstructure of anticipation is built. Manier's invention was not designed nor adapted nor used for the performance of the function performed by Brill's device, nor was the way to accomplish Brill's result suggested by Manier's invention.

(Topliff *vs.* Topliff, 145 U. S. 156.)

* * * * * * *

"The expert referred in his direct examination only to the Manier, Bird, Diehl, Brill and Vose patents 'as showing most
125 clearly constructions which I' (he) 'considered as the best anticipations of the alleged invention of the patent in suit, and particularly to the subject-matter of claims 1, 2, 9, 10, 11, 12, 14, 17, and 27.' His attention was afterwards called by the defendant to nineteen other patents and in regard to which he testified. Four of them were issued after the date of the Brill application. The remaining fifteen have no bearing upon the question of anticipation and were commented upon, probably, to have an affect upon the question of invention. I do not think that any of them calls for remark, except the Edgar Peckham patent, No. 419,876, dated January 21, 1890. In this car truck, between the end portions of the lower beams and the car sill, suitable springs were interposed, either spiral springs or a semi-elliptic spring which was disposed transverse to the car body and rests with each end secured to the top of the lower beam. The upper beams are supported on spiral springs on the axle boxes. This construction, although it contains the name semi-elliptic spring, has not the conjoint action of the patented combination, nor does it perform the function of the Brill device."

The subsequent patents to Peckham, prior to the issue of the Brill patent, confirm this view, as they do not indicate any recognition on the part of Peckham of any advantage derivable from the use of a semi-elliptic spring at the ends of the car, nor indicate any growth or tendency in the direction of utilizing two different classes of springs in the spring support of the car body upon the independent truck frame for any purpose whatever.

Peckham patent No. 424,723 shows a truck having an extended spring base with spiral supporting springs at each side of the axle boxes and additional similar spiral supporting springs at the ends of the extensions of the truck frame. This patent, therefore, shows merely the utilization of the extended spring base to afford a longer, and thus more stable, support for the car body than when supported
only directly over the wheels, being in this respect sub-
126 stantially like the old Ashenfelder patent of 1869 and the earlier Brill patents, Nos. 373,640 and 418,441.

Peckham patent No. 464,253 similarly shows only a truck having an independent frame constituting an extended spring base upon which the car body is supported wholly by spiral springs distributed throughout the length of said spring base. This patent also shows in Fig. 1, a check-spring at U, which tends to resist upward movement of the car body from the spring frame, but is referred to in the specification as a support for the end extensions of the independent or spring-supporting frame.

Peckham patent No. 471,061 shows a similar construction embodying the independent truck frame constituting an extended spring base upon which the car body is supported wholly by spiral springs distributed throughout the length of said spring base. It is to be observed that the arrangement of the spiral springs in these last two patents is much the same as in the Peckham "Standard" and Peckham "Extra Long" trucks, except, as shown in these patents, that spiral springs are used at each side of the axle box, while, as shown in the "Standard" and "Extra Long" trucks, the spiral springs at the outer sides of the axle boxes over the end extensions are omitted, and elliptic springs are added.

The Street Railway Journal for October, 1889, which was put in evidence by defendants in the Third Avenue Railroad case, shows, on page 291, a cut entitled "Peckham's Non-oscillating Truck for Street Cars." This shows merely a truck having a truck frame supported on the axle boxes and extended outside of the axles so as to give an extended spring base upon which the car body is supported through the intervention of four spiral springs on each side of the car, namely, one at the outer extremity of each extension of the truck frame, and one just within each axle box, the four being about equidistant from one another. The description states that this arrangement must entirely prevent any rocking motion, and the car ought to ride as smoothly as any steam railway pas-
127 senger coach. Experience has demonstrated, however, I believe, that this arrangement of springs on an extended spring base does not, in fact, prevent longitudinal oscillation, although Manier and many of the early inventors or patentees in this art made similar statements to the effect that the extended spring base would prevent longitudinal oscillation of the car body.

The inadequacy of an extended spring base to prevent oscillation of the car body is evidenced by a comparison of Peckham's later trucks ("Excelsior," "Standard," and "Extra Long") with the one shown in the Street Railway Journal in October, 1889, prior to the grant of the Brill patent in suit, which I will call the Peckham, 1889, truck.

It will be seen that the spring arrangement shown in the Peckham, 1889 truck is practically identical with that shown in the later "Standard" truck, except that the latter has, in addition to the all spiral springs of the former, elliptic springs over the end extensions of the stationary truck frame, and the other later trucks, "Excelsior" and "Extra Long," while exhibiting a variation in the arrangement of the spiral springs from that shown in the 1889 Peckham truck, are essentially different therefrom in that they also contain elliptic

springs co-operating with the spiral springs and arranged on the end extensions of the stationary frame or extended spring base of the truck.

From a comparison of these four structures, viz., the Peckham 1889, truck, (prior to the Brill patent) and the three later Peckham trucks, it seems obvious that the specific arrangement of the spiral springs *i. e.* their distribution along the truck frame, is immaterial, and that the employment of spiral springs alone is inadequate for checking or preventing the longitudinal oscillation of the car (although perfectly efficient, so far as the performance of all other functions of a spring support for a car body is concerned), and that the combination of the elliptic springs with the spiral spring, as shown in the three later Peckham trucks, is in direct accordance with
128 the instruction of the Brill patent in suit, and that there is no reason for employing the elliptic springs in this combination other than that of availing of Brill's discovery that the excessive oscillation of the car body experienced when springs of one character only were employed, could be substantially obviated by the conjoint action of such elliptic springs with the spiral springs that had previously been used.

The careful consideration of the various contrivances disclosed in this art prior to the Brill invention thus clearly shows that the Brill invention was entirely novel, and that although various inventors had been for many years seeking to devise some adequate means for preventing the excessive longitudinal oscillation of cars, no substantial advance was made in that direction up to the time of the invention of the Brill patent in suit.

JOSEPH P. LIVERMORE.

UNITED STATES OF AMERICA.

COMMONWEALTH OF MASSACHUSETTS, *Suffolk*, } *ss:*

BOSTON, *October* 11, 1900.

Then personally appeared the above-named Joseph P. Livermore, and made oath that the foregoing affidavit, by him subscribed, is true.

Before me,

HENRY J. LIVERMORE,
Notary Public.

[SEAL.]

129 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL ET AL.
vs.
PECKHAM MOTOR TRUCK & WHEEL COMPANY ET ALS.

I have given another affidavit in this case. I have examined a drawing of a truck marked with the word "Excelsior," and also another drawing marked "Extra Long," the lower figure of which

showing the truck mainly in side elevation has at the left-hand end, a broken line opposite which is inscribed "End of 'Standard' truck."

The drawing marked "Excelsior" shows in detail the construction of the truck represented in the cut designated "Excelsior," referred to in my other affidavit as the "Peckham Excelsior truck."

The drawing marked "Extra Long" shows in detail, the construction of the truck represented in the cut designated "Extra Long," referred to in my other affidavit, and if the portion at the ends corresponding to the portion beyond the line inscribed "End of 'Standard' truck," were removed, the remaining structure would be the same as that represented in the cut designated "Standard," referred to in my other affidavit. These drawings represent the same structures as were represented in the several cuts referred to in my other affidavit, said structures being referred to by me as the Peckham Excelsior, Standard and Extra Long trucks, respectively, and all that I have said in my other affidavit as to the construction and mode of operation of said Peckham trucks and their relation to the subject-matter of the Brill patent in suit applies equally to the trucks represented in the drawings referred to in the present affidavit.

JOSEPH P. LIVERMORE.

130 UNITED STATES OF AMERICA.

COMMONWEALTH OF MASSACHUSETTS, *Suffolk*, } ss:

BOSTON, *October* 11, 1900.

Then personally appeared the above-named Joseph P. Livermore and made oath that the foregoing affidavit, by him subscribed, is true.

Before me,

HENRY J. LIVERMORE,
Notary Public.

[SEAL.]

131 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and J. G. BRILL COMPANY, Complainants,
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, EDWARD Peckham, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants.

To the above defendants and each of them:

Please take notice that a bill of complaint has been this day filed in the above-entitled case in the circuit court of the United States for the southern district of New York, and that upon the said bill of complaint, the affidavits of Joseph P. Livermore, John A. Brill, George Martin Brill, Charles G. Hensley, Charles W. Benjamin, Samuel M. Curwen, Vincent C. Anderson, James Fagan, John N. Akarman, Harvey M. Littell and exhibits and letters patent No.

478,218, dated July 5, 1892, to George Martin Brill, in said bill referred to, and upon the record in the case of John A. Brill *vs.* The Third Avenue Railroad Company, pending in the United States circuit court for the southern district of New York (copies of which bill, affidavits, exhibits, letters patent, and of said record, are delivered to you herewith), counsel on behalf of complainant will, on the 19th day of October, 1900, at the opening of the court or as soon thereafter as counsel can be heard, make an application to the said court for a preliminary injunction until the final hearing of the said cause, restraining you and each of you the Peckham Motor
132 Truck and Wheel Company, Edgar Peckham, W. G. Price, Erwin G. Long, John H. Bickford and Theodore Spore, and your officers, agents, attorneys, servants, and workmen, or either of them, from infringing upon claims one (1) and two (2) of the said letters patent referred to above and in the bill of complaint herein.

New York, October 15, 1900.

JOSEPH L. LEVY,
Solicitor for Complainants, 206 Broadway, Borough of Manhattan, New York City, N. Y.

FRANCIS RAWLE, Esq., *Of Counsel.*

133 Circuit Court of the United States, Southern District of New York. In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants,
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL CO., EDGAR PECKham, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants.

To the above-named defendants:

Please to take notice that the within is a copy of the following, mentioned in the notice of motion in the above-entitled suit, which is hereby served upon you.

"Defendant's record: Defendant's U. S. patent exhibits; Complainant's record; opinion of N. Shipman, in the case of John A. Brill *vs.* Third Avenue R. R. Co."

Respectfully, JOSEPH L. LEVY,
Solicitor for Complainants, 206 Broadway, Borough of Manhattan, N. Y. City.

Dated New York, October 1, 1900.

134 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL CO., EDGAR PECKHAM, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants.

CITY, COUNTY, AND STATE OF NEW YORK, *ss.*:

Charles G. Hensley, being duly sworn, deposes and says as follows: I am of lawful age; and am a clerk in the office of Joseph L. Levy, Esq., 206 Broadway, New York city, borough of Manhattan, county and State of New York, solicitor for complainants in the above-entitled action.

That on the 15th day of October, 1900, at 2 o'clock p. m. on said day, together with George H. Holmes, a United States deputy marshal, I went to the office of the Peckham Motor Truck & Wheel Co., at 26 Cortlandt street, city of New York, borough of Manhattan, county and State of New York, and there served upon George H. Bowers, an adult in charge of said office, I knowing the said office to be the office of the Peckham Motor Truck & Wheel Co., and the said George H. Bowers having said so in response to my inquiry, and that the said George H. Bowers was in charge of the office of said company, the following papers, to wit:

Copy of the bill of complaint in this action, with a copy of the patent in suit thereto attached; a copy each of the affidavits of Joseph P. Livermore; John A. Brill, with exhibits
135 & 136 mentioned in said affidavit; G. M. Brill; Charles G. Hensley, with the exhibit mentioned in said affidavit; Charles W. Benjamin, with the exhibits mentioned in said affidavit; Samuel M. Curwen, Vincent C. Anderson, James Fagan, John N. Akarman, Harvey M. Littell, and the record of the case of John A. Brill *vs.* Third Avenue Railroad Co., pending in the United States circuit court, southern district of New York, consisting of a copy of complainant's record, defendant's record, defendant's book of patent exhibits, and a copy of the opinion of N. Shipman, J.

That at the same time, George H. Holmes, deputy U. S. marshal, served a subpœna upon the Peckham Motor Truck & Wheel Co., by showing the original to and serving a copy upon the said George H. Bowers; that upon the 15th day of October, 1900, I filed in the office of the clerk of the U. S. circuit court, southern district of New York, the original bill in this case, duly verified and signed, to which was attached a copy of the patent in suit; and that thereupon I caused subpœnas in proper form to be issued to each of the defendants in this case.

CHARLES G. HENSLEY.

Sworn to before me this 15th day of October, 1900.

BENEDICT S. WISE,
[SEAL.] *Notary Public, N. Y. Co.*

137 United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL CO., Complainants,
vs.
PECKHAM MOTOR TRUCK & WHEEL CO., EDGAR Peckham, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants. } In Equity.

To the Peckham Motor Truck & Wheel Co. and the above-named defendants, 28 Cortlandt St., New York city, borough of Manhattan, New York.

GENTLEMEN: Please to take notice, that I shall read the affidavit of Charles G. Hensley, verified this 22nd day of October, 1900, and shall refer to the patents therein mentioned, at the hearing of the motion for the preliminary injunction on the 26th day of October, 1900, at the opening of said court, or as soon thereafter as counsel can be heard.

A copy of the affidavit and a copy of the patents referred to is herewith served upon you.

New York, Oct. 22, 1900.

Respectfully,

JOSEPH L. LEVY,
Solicitor for Compl'ts.

138 United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL CO., Complainants,
vs.
PECKHAM MOTOR TRUCK & WHEEL CO., EDGAR Peckham, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants. } In Equity.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

Charles G. Hensley, being duly sworn, deposes and says: I have been a clerk in the employ of Joseph L. Levy, Esq., solicitor for complainants herein, for a number of years last past, and am of lawful age. I depose that upon Mr. Levy's instructions some time ago I requested Mess. Wilkinson & Fisher, attorneys and counsellors at law, residing at Washington, D. C. (the Mr. Fisher of said firm having been Assistant Commissioner of Patents), to search the records of the Patent Office and to make a list, and to procure copies of all patents granted to Edgar Peckham, or patents assigned to him or to the Peckham Motor Truck & Wheel Co. of Kingston, N. Y. That said Mess. Wilkinson & Fisher did make such search, reported to me that it had been carefully done, and that the list of patents so furnished me was a true and accurate one.

From my knowledge of the ability of the said Mess. Wilkinson & Fisher to make the search required, and their statement to me that such report disclosed every one of the U. S. patents
139 granted to Edgar Peckham or assigned to him or to the Peckham Motor Truck & Wheel Co., I depose on information

and belief, that the U. S. patents as appended in the following list, are all of the United States patents granted to Edgar Peckham or assigned to him or to the Peckham Motor Truck & Wheel Co., for non-pivotal car trucks, wherein either spiral or elliptical, or spiral and elliptical springs are employed for the support of the car body thereon.

That is to say, I depose on information and belief, that the following list is a true and accurate statement of all patents granted to Edgar Peckham or assigned to him or to the Peckham Motor Truck & Wheel Co., for that class of truck, to date, and that there are no others:

419,876, June 21, 1890.
419,877, June 21, 1890.
419,878, June 21, 1890.
424,723, April 1, 1890.
440,189, Nov. 11, 1890.
458,749, Sept. 1, 1891.
464,253, Dec. 1, 1891.
471,061, Mar. 15, 1892.
467,896, Jan. 26, 1892.
555,526, Mar. 13, 1896.
563,685, July 7, 1896.
555,530, Mar. 3, 1896.
599,474, Feb. 22, 1898.

I attach hereto a complete set of patents as referred to in the above list.

CHARLES G. HENSLEY.

Sworn to and subscribed before me this 22d day of October, 1900.

HENRY L. SMITH,
[SEAL.] *Notary Public, N. Y. Co.*

140 DEF'TS' AFFIDAVITS.

Affidavit of Edgar Peckham.

United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL COMPANY ET AL., Complainants,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY *et als.*, Defendants.
} In Equity.

CITY AND COUNTY OF NEW YORK, *ss*:

Edgar Peckham, being duly sworn, deposes and says as follows:

I am the president of The Peckham Motor Truck & Wheel Company named as one of the defendants in the above-entitled suit and am also named as a defendant therein. I began the business of manufacturing trucks for electric street railways during the year 1888, and have been in said business continuously ever since, either

on *on* my own account and under my own name, or as president of the Peckham Street Car Wheel and Axle Company and its successor, the Peckham Motor Truck and Wheel Company. The last-named company is a corporation organized under the laws of the State of New York and does a business of about eight hundred thousand dollars a year. It has its factories at Kingston, New York, occupying about three acres of ground and is now engaged in enlarging their capacity by building new works, which together with the yard room, when completed, will occupy about six acres of ground. This company at present employs about two hundred and fifty hands
141 and produces about twenty-five hundred car trucks in the course of a year. When the enlargement of the works now in progress is completed, its producing capacity will be about four thousand trucks a year. Though this company produces a few snow-plows and power brakes for application to electric street cars, its principal business is and has been the manufacture of electric street railway trucks, and this company is one of the largest manufacturers of electric street railway trucks in the world.

When I entered into the manufacture of electric street railway trucks, the question of the substitution of electric for horse cars was practically in its infancy. No electric street railway car truck then existed which was satisfactory. Everything was in the experimental stage. I became very much interested in this art, and devoted myself wholly to earnest endeavor and experiment to discover what was necessary to a perfect truck of that kind, and the means required to produce such a truck.

The problem was complex. Because of the narrow streets and sharp turns incident to street railways, it was necessary that the cars to turn those curves should have a very short wheel base. By wheel base I mean the distance from where one wheel rests upon the track to where the next wheel on the same side touches the track. At the same time, it was obvious that in electricity a source of power was available which could furnish each car many horse power. From this fact followed the commercial necessity of lengthening the bodies of the cars, so that at the same expense to be able to carry much larger numbers of passengers on each car than was practicable when horses alone were the motive power. Since the wheel base was necessarily left unchanged, the ends of these long cars projected far beyond the wheels, so that when the car was in motion the car body pitched and oscillated to a very great degree, endangering the connection of the car with the track as well as its electrical connection with the trolley wire.

142 The problem was then twofold; first, to check the oscillation of the car body both transverse and endwise (galloping), and second, to support these overhanging ends of the car platform, so that they should not break. The solution of the problem appeared to be the extension of the spring base; that is, to extend the truck frame and to place supporting springs under the car body not only in the neighborhood of the wheels as heretofore, but out near the extremities of the extended ends of the car and truck frame; and to meet the weakness of the car platform I devised and intro-

duced my cantilever truck built upon the principle of the cantilever bridge, which I have used ever since in all my four-wheel street-car trucks with slight modifications. At this time I supposed that I was the first to realize the necessity of the extended spring base and to put it into practice, though I found out afterwards that there was some question whether one Manier had not anticipated me by a very short time.

As I said before, my first extended spring base trucks were made upon the cantilever principle, the same principle as that upon which the spans of the cantilever bridges are constructed. I applied for a patent for this construction on September 17th, 1889, which was issued January 21, 1890, and was numbered 419,877. These trucks were connected with the car bodies by spiral springs arranged as follows, one set on each side of the car. Two were located between the wheels, and either one or two, according to the length of the car body, at each end of the truck frame outside of the journal boxes and near the end of the car platform, as shown in my patent No. 419,877, dated January 21, 1890, and applied for September 17th, 1889.

In this construction, to overcome the endwise oscillation or galloping movement, I carried bolts through the springs, which bolts were firmly secured to the car platform and to the lower side of
143 the lower chord of the truck frame, thus tying the ends of the car down to the truck frame so that it could not rise. This device overcame the galloping movement to a very considerable extent, but practice showed the connection to be almost too rigid. I then inserted first rubber cushions, and subsequently spiral springs, between the under side of the lower chord of the truck frame and the head of these bolts, so as to cushion the bolts against the under side of the truck frame and thus relieve these binding bolts of some of their rigidity. This was an improvement and of course speedily suggested the substitution of spiral springs for the rubber cushions in that location. My construction then was bolts or stays securely fastened to the car body near its ends, which passed down through the lower chord of the truck frame; so surrounded with spiral springs that there was one spiral spring around the bolts between the car body and the upper chord of the truck frame to cushion any undue approach of these parts, while there was at the same time a spiral spring surrounding the stays or bolts below the lower chord of the truck frame so as to cushion any tendency of the car body to rise from the truck frame.

I adopted this method in 1890 or 1891 and I have relied upon it from that day to this to overcome the galloping motion in all of the electric street railway car trucks which I or the Peckham Street Car Wheel & Axle Company or the Peckham Motor Truck & Wheel Company have made. It will be seen that this method of overcoming the galloping motion must have great advantages over any system which depends upon any difference in rhythm of action between elliptical and spiral springs as is claimed in complainants' construction, for in my construction the moment my car begins to gallop, one end of the car body must increase its distance from the

truck frame. This motion is cushioned by the spiral spring
144 around the stays or bolts under the lower chord of the truck frame. Should the motion exceed the compressibility of this spring, it will be seen that the car body, which then becomes rigidly fastened or bolted to the upper chord of the truck frame, can rise no more without lifting the weight of the truck frame, car wheels, axles and the motor. This, in practice, it cannot do and consequently the galloping motion of the car body is so confined by the proper adjustment of the spring upon the bolts or stays underneath the lower chord of the truck frame, that the galloping motion can never exceed negligible limits. Thus it will be seen that I have attacked the problem of galloping from one direction, while Mr. Brill, complainants' patentee, attacked it from a wholly different, and, as I have always believed, mistaken direction.

I am thoroughly familiar with the construction of the car truck shown in the patent in suit and also with its practical use. I am also familiar with and have repeatedly inspected and examined the car trucks furnished to the Third Avenue Railroad Company by the Bemis Car Box Company, and which were adjudged to be an infringement of the patent in suit in the suit of Brill *vs.* The Third Avenue Railroad Company, brought in this district and recently decided by Judge Shipman in favor of the Brill Company. So far as the arrangement of the elliptical and spiral springs was concerned, these Third Avenue Railroad trucks were a Chinese copy of the truck shown and described in the patent in suit. Those Third Avenue Railroad trucks, 150 to 175 in number, were in service under the closed cars on the Third Avenue railroad in New York city for about three years. From personal observation I know that these trucks were so defective in stopping the galloping motion and the wear and tear of the road-bed and the car bodies, that when the Third Avenue railroad changed its motive power from cable to electricity, these trucks were all thrown into the scrap-iron heap,
145 while about 175 trucks of my construction, which had already been in use under the cable cars of the Third Avenue railroad for two years, were changed from cable to electricity and are now in use under the electric cars of the Third Avenue railroad to this day, to the entire satisfaction of that railroad, as I am informed by their manager.

Complainants' method and my method are wholly and fundamentally different in principle. My first car trucks embodying this construction had between the car body, or the equivalent member of the construction, and the extended truck frame only spiral springs. I soon found that these spiral springs did not give as much resistance as was desirable to lateral and lengthwise motion of the car body in reference to the truck frame. This was due to the fact that the bearing of the bolts or stays passing from the car body to the truck frame was so short below and extended so far above that motion laterally and longitudinally was unavoidable. To overcome this, and for no other reason whatsoever, I, as early as my patent No. 419,876, applied for September 2d, 1889, and issued January 21, 1890, introduced a semi-elliptical spring and shortly

after full elliptical springs on each side of the car between the car body or its equivalent, and the upper chord of the truck frame, in place of one set of the spiral springs. I tied these elliptical springs rigidly above to the car body, or its equivalent, and below to the truck frame. The width of these springs gave a good solid connection between the parts and did away with the pivotal lateral and longitudinal motion of the car body in reference to the truck frame incident to the employment of all spiral springs. I repeat that it was for this reason, and for no other, that I substituted the elliptical springs for one set of the spirals in my construction.

In the patent in suit it is stated in reference to the spiral
146 springs interposed between the car body, or its equivalent, and the truck frame,

"the spiral springs which are supported by or about the axle boxes normally take the weight of the car."

Neither I, nor the Peckham Street Car Wheel & Axle Company, nor the Peckham Motor Truck & Wheel Company, have ever made or sold a car truck in which spiral springs are used in conjunction with elliptical springs in which the spiral springs "normally take the weight of the car." The weight of the car has always and invariably almost wholly been thrown upon the elliptical springs which have always been the strongest springs and the controlling springs.

I also note at line 65, page 1 of the patent in suit these words:

"Between the extended sections of the upper chord and the side beams I place elliptical springs which preferably extend longitudinally of the truck and which are so disposed that they will not be brought into action until the weight of the load on the axle box begins to depress said springs abnormally. Then the elliptical springs begin to act and assist the spiral springs in resisting the pressure of the load."

Neither I, nor the Peckham Street Car Wheel & Axle Company, nor the Peckham Motor Truck & Wheel Company, have ever made or sold a car truck of this construction. As said before, the greater part of the weight of the car body has always rested upon and been supported by the elliptical springs and the spiral springs have been subsidiary.

Again I notice at page 1, line 101 of the patent in suit these words:

"And an adaptation of my invention consists in making
147 the axle-box springs comparatively weaker and slower than has formerly been done and to place elliptical springs in such a way as to assist the spiral springs in resisting the abnormal pressure of the car and in equalizing the end oscillation of the same, the elliptical springs being slower in their action than the spiral springs."

Neither I, nor the Peckham Street Car Wheel & Axle Company, nor the Peckham Motor Truck & Wheel Company, have ever built or sold a car truck of any such construction. As said before, our elliptical springs have always been stronger than the spiral springs and have always been rigidly secured to the car body, or its

equivalent, and to the truck frame, and have always been in constant action as long as the car body rested upon the truck frame.

Again I find at line 121 of page 2 of the specification of the patent in suit these words:

"To this end I supplement the axle-box springs by placing elliptical springs of slower action between the extended portions or sections of the side beams and upper chord and so arrange them in respect to each other that the elliptical springs will not come into play until after the axle-box springs have begun to compress, and the action of the spirals in lifting the car body is continued after the elliptical springs have ceased to act. The devices which secure the elliptical springs between the side beams and the upper chord are devised to permit one end of the upper chord to approach the side beams and the other end to be elevated, as will occur in the act of oscillation, one set of elliptical springs being compressed, while the other remains in its normal condition."

148 Neither I nor either of the companies aforesaid, have ever made or sold any truck of any such construction. As said before, the elliptical springs have always been rigidly tied to both the car body or its equivalent, and to the truck frame, so that it was impossible for one set of coil or spiral springs to be compressed while the other set of elliptical springs was out of action. Our car bodies, or their equivalents, and the truck frames, have always been so tied together by the bolts passing through the spiral springs and the attachment of the elliptical springs that both sets of springs, the elliptical and the spiral, were compelled to act in unison.

In brief, all the car trucks made and sold by this deponent and the aforesaid companies have always and invariably been made, as far as the features covered by the complainant's patent in suit are concerned, in an entirely different manner and working upon an entirely different and opposed principle.

I am very much surprised at the statement made in the affidavit of Mr. John A. Brill, *i. e.*:

"I believe, from a very general knowledge of the trucks in use all over the United States which I have acquired in my business, that fully ninety per cent. of all the trucks under four-wheel cars now in use in the United States on all its street railways, are constructed in accordance with the invention described and claimed in the letters patent in suit."

I have had occasion to become familiar with the trucks in use on all of the largest electric street railways in this country, and outside of the 150 to 175 trucks furnished by the Bemis Car Box Company to the Third Avenue Railroad Company of New York, I do not know of 200 of the trucks shown and described in the patent in suit in use anywhere. And I cannot but conclude that Mr.

149 Brill, in making this statement, had in mind the car trucks made and sold by me and my companies to the trade to the number of about ten thousand, and must have included them in his estimate. The Brill Company discontinued the manufacture of the truck shown and described in the complainant's patent in suit, as I am informed and believe, about three years ago, and in place

of trucks embodying the arrangement of the springs as shown in this complainant's patent in suit, they have manufactured and sold and advertised trucks with half-elliptical springs constructed on an entirely different principle from that of the patent in suit. In this new Brill construction a semi-elliptical spring is used rigidly fastened to the end of the truck frame and also to the end of the car sill or its equivalent, practically after my method hereinbefore described.

Of the above ten thousand car trucks of the four-wheel pattern made and sold by me and my companies, the tendency to gallop has been met and overcome in all by the method and construction I have hereinbefore described as that I and my companies have always used. Among such four-wheel trucks that we have so made and sold I might specify the following:

Over 500 to the Metropolitan Street Railway Company of New York City, about 200 of which are now running on the Broadway cable road, some of which have been in service night and day for over eight years;

About 250 to the Third Avenue Railroad Company system, which are also still in service;

200 to the Long Island electric railways;

Over 1,200 to the Brooklyn Heights Railway Company;

200 to the Coney Island and Brooklyn Railway Company of Brooklyn;

150 to the old Atlantic Avenue Railway system;

150 to the New Jersey Electric Railway Company;

100 to the Hoboken Street Railway Company of Hoboken;

150 1,200 to the Union Railway Company of Philadelphia;

250 to the Baltimore Street Railway Company of Baltimore;

400 to the Cincinnati Street Railway Company of Cincinnati; and many others, all of which trucks, as far as I know, are still in service and give satisfaction.

I would state that I have examined the drawing marked "Excelsior truck," annexed to the affidavit of C. W. Benjamin on behalf of the complainant upon this motion, and that said drawing is inaccurate at least in the following respect, probably because the part was more or less concealed so that it escaped Mr. Benjamin's observation.

In those drawings the bolts or stays are shown secured to the car body or its equivalent at their upper heads, and passing thence downward through a spiral spring and through the upper and lower chords of the truck frame, underneath which they are shown as rigidly secured. Neither I nor the aforesaid companies have ever made any such construction. The lower part of these bolts or stays have always been surrounded by a spiral spring which abutted against either one of the chords of the truck frame in such a way that when the car body or its equivalent, tends to rise from the truck frame as in galloping, this spring will be compressed and the motion checked as hereinbefore described. This construction is apparent, though somewhat obscurely, in the illustration of the

Excelsior car truck shown in the Peckham advertisement from the Street Railway Journal of December 1897, which is annexed to the affidavit of John A. Brill on the part of the complainant, and marked "Exhibit I."

My attention has been called to the following passage in the affidavit of Mr. Livermore forming part of complainant's papers herein. This passage occurs in the middle of page 12 of
151 that affidavit (bottom p. 69, of printed copy) and reads as follows:

"In this connection, it is to be observed that in the Peckham 'Standard' and 'Extra Long' trucks there is an additional spiral spring near each end of the independent frame but below the same, so that it acts with a spring resistance to oppose upward movement of the adjacent ends of the car. This was an expedient that had been devised prior to the date of the Brill patent in suit, with a view to diminishing the oscillation of car bodies by resisting their upward movement, but which has been found, in practice, to be ineffectual for accomplishing the desired result."

I notice this passage confirms what I have said about my method of overcoming the galloping motion as far as that it was devised before the date of the application for the patent in suit. But where Mr. Livermore got the information that my method had "been found in practice to be ineffectual for accomplishing the desired result" (the galloping motion), I am at a loss to conceive. His statement is altogether contrary to the facts, as is apparent from the fact that I and my companies have made and sold eight thousand or more trucks of this construction, all of which, as far as I know, are still in use, and in regard to the efficiency of which in overcoming the galloping motion, I have had no complaints from those using them; and this is notwithstanding that these sales have extended over some eight years or more, so that there has been ample time for complaint if there was any cause for it.

EDGAR PECKHAM.

Subscribed and sworn to before me this 25th day of October, 1900.

WM. O. SHAUGHNESSY,
[SEAL.] *Notary Public, N. Y. Co.*

152 United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE JOHN G. BRILL COMPANY *et al.*, Complainant-,
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY *et al.*, Defendants.
} In Equity.

Affidavit of George L. Fowler, on Behalf of the Defendants, to Oppose Motion for a Preliminary Injunction.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

George L. Fowler, being duly sworn, deposes and says that he is by profession a mechanical engineer, of 45 years of age, having his office at No. 53 Broadway, in the city of New York.

I am a graduate of Amherst college, and afterwards learned the machinist's trade in the shops of the Miltimore Car Wheel Company, Arlington, Vermont; then was chief draughtsman in the locomotive department of the New York Central & Hudson River railroad; then occupied the same position on the Flint & Pere Marquette railroad in Michigan; and then superintendent of the A. F. Bartlett Company in Saginaw, Michigan, builders of saw-mill machinery and steam-engines.

In 1887 I was United States commissioner to the Paris exposition of railway appliances, held that summer in Paris, France, and afterwards was superintendent for The Peckham Street Car Wheel
153 and Axle Company, one of the defendants in this suit, and organized, purchased machinery and installed its factory at Kingston, New York, for the manufacture of street railway car trucks.

On severing my connection with the Peckham Street Car Wheel & Axle Company in 1890, I opened an office as consulting engineer in New York city, where I have since remained.

I am a full member of the American Society of Mechanical Engineers, and an associate member of the American Railway Master Mechanics' Association.

My present work consists for the most part in designing and superintending the construction of special machinery, adapted to machine-shop and railway purposes, and also for testing various railway appliances to ascertain the actual operation of parts as they work when in ordinary and extraordinary use, such for example as the testing of air brakes, and the determination of the stresses that are put upon the various portions of cars and locomotives while in actual service, and especially in the calculation of the proper proportion for springs that are to be used under cars and locomotives, and afterwards testing the same to ascertain whether the springs as constructed agree in their operations with previous calculations as to how they should behave. These springs include all the principal kinds of springs such as are known as the coil, spiral, elliptic and semi-elliptic.

Mr. Peckham, to my knowledge, entered into the manufacture, or began to experiment with a view to the manufacture, of street railway car trucks about the time that electricity began to be substituted in the place of horses as a motor power for street railways. The galloping motion arising from the use of a long car body upon the short wheel base, which it was rendered necessary to retain in use because of the sharp curves incident to street railway construction, was one of the first problems which presented itself for
154 our solution. While horses were used as a motor power, car bodies were made about sixteen feet long; when electricity was being substituted for the horses as a motor power, it was found that the electric power was so far in excess of the horse-power that it was advisable for commercial reasons to largely increase the capacity of the cars. But while doing this it was necessary, for the reasons already given, to adhere to the short wheel base of the horse car. This gave a car supported on a short wheel base with overhanging ends. Any irregularity in the track or shifting of the load caused these ends to oscillate up and down, which constituted the galloping motion above referred to.

Mr. Peckham, from the first, assailed this problem on certain principles; and as far as I know, and I think I do know, he has met this contingency in the street railway car trucks which he has since manufactured, in the same way, and by the employment of the same principles of construction.

This principle consisted in extending out the ends of the truck frame approximately to the length of the car body, or its equivalent, and introducing between the car body and the truck frame spiral springs in such a way that if the one end of the car body descended toward the truck frame, as it did in the process of galloping, the spiral springs at that end of the car would be compressed and resist and arrest the motion. Bolts were passed through these end springs, and were fastened at the top to the car body, or its equivalent, and at the bottom to what is known as the cantilever extension of the truck. This bolt passed loosely through a hole in this cantilever extension, and was free to move up and down therein to a limited extent. This downward motion was limited only by the extent to which a spring could compress. This upward motion was limited by the extent to which it was deemed advisable to allow the car to rise above its normal position in relation to
155 the truck frame. It was found that the limitation of this upward movement, due to the sudden striking of the nut of the bolt against the cantilever projection of the truck, brought the car to such a sudden standstill as to produce a disagreeable jar that was an annoyance to the passengers riding therein.

The first change made to modify this sudden jar was accomplished by the introduction of a rubber spring, put between the bottom of the cantilever projection and the lower end of the aforesaid bolt. This modified the suddenness of the check to the upward motion to a certain extent, and was evidently a step in the right direction to check this upward motion gradually.

This substitution of rubber was followed by a further substitution

of a spiral spring beneath the cantilever, which construction, to the best of my knowledge and belief, has been followed in all trucks since constructed by the company, of which Mr. Peckham is president.

This spiral spring so modifies the upward motion that it is gradually checked before any jar occurs. But it is evident that the upward motion is still limited by the distance through which the car can pass before closing the spring, at which point the connection between the car and the cantilever extension becomes rigid, and the car to rise further must lift the truck and all parts attached thereto.

It will thus be seen that in the galloping motion of the car, one end goes down while the other rises; and that the downward motion at the one end is resisted by the springs between the truck frame and the car body, while the upward motion at the other end is resisted by the springs beneath the truck frame, both of which tend to counteract the tendency of the car to gallop.

It will thus be seen that the galloping motion can be limited by the adjustment of the lower springs, which can thus be regulated, so that after the car has risen to a certain extent, the connec-
156 tion between it and the truck frame becomes rigid and it can go no further without lifting the truck frame and its attachments, and this in practice it was incapable of doing.

As Mr. Peckham's trucks were made and sold while I was with him, the springs interposed between the car body and the truck frame and its extension, were all spiral springs.

Inasmuch as the car body rested upon the spiral springs, the bolts passing through the latter being loose at the bottom, owing to their passing through holes in the truck frame of a greater diameter than their own, it was possible for the car to be swayed transversely, the only resistance to which lay in the unequal compression which was thereby thrown upon the two sides of the supporting spiral springs. It was quite possible to move a car from three to five inches latterly by pushing upon it. This, while the car was running, gave a very disagreeable swaying motion to the body of the car.

The matter was discussed at that time, and it was decided that the introduction of elliptic springs, fastened at the top of the car body, and at the bottom of the truck frame, would overcome the difficulty, owing to the fact that such a swaying motion would necessitate the bending of the plates of the elliptic springs transversely, which would be practically impossible with any stress that would be ordinarily placed upon the car while running. Owing to commercial reasons, and the increased expense involved in the construction of a truck with elliptic springs, they were not introduced until after I had severed my connection with the Peckham Street Car Wheel and Axle Company.

But since that time and down to the present I have seen numbers of the Peckham Street Car Railway trucks in use, which contained these elliptic springs arranged precisely as it was proposed
157 to arrange them while I was with the company. They fill the exact office, and perform the exact function for which

they were then proposed; and I cannot imagine, from my professional knowledge and experience, for what other purpose they can be introduced, fastened as they are above to the car body, and below to the truck frame, than to prevent the swaying of the car body in a lateral direction.

My attention is called to an affidavit made on behalf of the complainant, by Mr. Joseph P. Livermore, in which he says, on the middle of page 12 (bottom of p. 69 in printed copy): "In this connection, it is to be observed that in the Peckham 'Standard' and 'Extra Long' trucks there is an additional spiral spring near each end of the independent frame, but below the same, so that it acts with a strong resistance to oppose the upward movement of the adjacent ends of the car. This was an expedient that had been devised prior to the date of the application of the Brill patent in suit, with a view to diminishing the oscillation of the car bodies by resisting their upward movement, but which has been found, in practice, to be ineffectual for accomplishing the desired result."

I do not know upon what data this affidavit was based, but my experience and observation has been that the introduction of that lower spring to resist the upward motion of the car has been perfectly effectual in accomplishing the result for which it was intended. As it was first designed when I was with the Peckham Street Car Wheel & Axle Company, it is still in use, and is, as far as my knowledge and observation goes, and that is quite extensive, the most effectual method now known and in use for overcoming the galloping motion in street cars.

My attention was also called to patent in suit, No. 478,218, issued July 5th, 1892. I have carefully read the specifications of said patent, and find that the construction of the truck therein de-
158 scribed differs essentially from any which have ever been constructed under my direction, or which I have known to have been since constructed by the Peckham companies. In the patent aforesaid it is distinctly claimed that the top of the elliptic spring is not fastened to the upper member of the truck, but that the whole weight of the car is supported when in the normal position, by the "axle-box springs," and that only after these springs have been compressed a certain predetermined amount does the elliptic spring come into play, and that the said elliptic spring has no tendency whatever to resist the upward motion of the car body.

It would therefore be possible for the car body to gallop by an amount which would equal at one end the distance to which the axle-box springs must be compressed before the elliptic springs comes into action, and at the other end by an indefinite amount before any resistance or checking to the galloping would be brought into play by these elliptic springs.

In the trucks as constructed by the Peckham companies, on the other hand, the elliptic springs have a rigid connection with and consequently have a bearing against the sills of the car and are under compression under all conditions; and the result is that at the slightest downward movement of the car body, these springs

resist that motion, and tend to check any tendency to galloping. The same statement applies to the springs below the truck frame, which tend to resist all upward motions of the car. Therefore the construction of the Peckham truck and of the Brill truck as described in the patent in suit are utterly dissimilar, and in nowise resemble each other.

In order to ascertain the amount of galloping that will occur on a street car running under varying conditions and fitted with trucks having all spiral springs, as compared with a truck in which
159 one elliptic spring was substituted at each end of each side for one of the spiral springs, as shown in the cut of the Peckham truck designated as "Extra Long" in Complainants' Exhibit I, I have recently conducted some experiments upon the tracks of the New York & Queens County railroad. The nature of these experiments was of such a character that all matters governed by the personal equation of the observer were eliminated, and the action of the car was graphically shown by the operation of the instruments used, upon a moving strip of paper, upon which was automatically recorded the rate of speed of the car and the galloping motion of the ends of the car, in such a way that both of these could be positively and accurately determined at any and every half-second interval while the car was in motion.

The section of the road-bed upon which these experiments were made was that forming part of the extensive system of the New York & Queens County Railway Company, running from 92d Street ferry in Astoria to 34th Street ferry in Long Island City, a distance of about three miles. This section of the road-bed was chosen because the officers of the railway informed me that it was the oldest and the roughest of any section of their system, and by personal observation I know that it was a very rough road-bed for a street railway.

In all, eight round trips were made, running in one direction upon one track and running in the opposite direction on the other track.

The first four of these round trips were made with the car equipped with all spiral springs.

The second four of these round trips were made over the same tracks with the same car, in which one set of the spiral springs was removed and elliptic springs substituted in their stead, as shown in theillustration of the Peckham truck designated as "Extra Long" in Complainants' Exhibit I.

160 The first two round trips, with the car equipped with all spiral springs, were made running at the highest speed that was possible to attain and maintain on the streets through which the tracks ran, and considerably exceeded the ordinary running schedule of the road.

The third round trip, with the car equipped with all spiral springs, was made running at a speed as near as possible to that at which the cars were scheduled to run in the regular service.

The fourth round trip, with the car equipped with all spiral springs, was made at a slower speed than the ordinary schedule

running rate and as slow as was possible and yet not interfere with traffic.

These several trips were then duplicated, the car, its load and the speeds being identical in all respects as near as possible, the only difference in any respect being that elliptical springs were substituted for that set of the spiral springs which is immediately outside of the pedestals at both ends of the car, as is shown in the illustration of the Peckham truck marked "Extra Long," in the Complainants' Exhibit I. The elliptic springs were adjusted to sustain the same weight as the spirals.

The car that was used for these experiments was an open car with cross-seats. The total length of the car over the buffers was 30 feet and 10 inches. The length over the side sills was 29 feet. It was carried upon four wheels of 30 inches diameter having a wheel base (distance between the centers of the axles) of 6 feet 6 inches. The proportion of the total length of the car to the wheel base upon which it was carried, was thus nearly five to one; and therefore it was as long a car body supported on as short a wheel base as we were able to find, and which is as long as is ordinarily constructed.

These tests were made on Monday and Tuesday last and it is now Thursday. The tests were so extensive that it has been impossible for me to fully plot them, as it is called, so as to enable me to give absolute mathematically correct figures for all of them so that
161 they can be compared thereby. But from such study as I have been able to give to them, I am in a position to state positively that the oscillations of the car when the spiral springs alone were employed, and when spiral and elliptic springs were conjointly used, were substantially the same throughout the whole series of tests.

But there was a marked difference noticed in the character of the movements which the car made when the spiral springs were employed, in comparison with its movements when elliptic and spirals were conjointly used, and this difference is as follows: That when all spirals were used, the movements were smoother, more even, less tremulous, less abrupt than when the elliptic and spirals were conjointly used. Thus the riding of the car when the all-spiral springs were employed was what is known among street railway men as smoother and more comfortable than when the spirals and elliptics were conjointly employed. This difference in smoothness or comfortableness of the car motions was noticed and referred to by all the gentlemen who were upon the car with me at the time these tests were made, among whom were Mr. Newbury and Mr. Abbott.

I have, however, compared the records made by my recording instruments on the two trips where the speed was the highest, in one of which the car was equipped with all spiral springs and in the other with the elliptical springs introduced as aforesaid, and am able to give precise figures as to these results. They are as follows: The maximum galloping movement of the all-spiral-spring car was one and nine-sixteenths ($1\frac{9}{16}$) inches. The maximum galloping movement of the same car provided with elliptical and spiral springs as aforesaid was one and one-half ($1\frac{1}{2}$) inches, a difference of one-thirty-second ($\frac{1}{32}$) of an inch at each end of the car truck at the

point where my instruments were attached, a difference entirely unappreciable except by the delicate instruments I used in making these measurements.

162 If these oscillations are carried out to the ends of the car sills, I find that the maximum vertical oscillation when the car was equipped with all spiral springs amounts to three and forty-five one-hundredths (3.45) inches; and when the car was equipped with elliptical and spiral springs as aforesaid, the maximum vertical oscillation amounts to three and thirty-one one-hundredths (3.31) inches, a difference of fourteen one-hundredths (.14) of an inch, a difference which would be entirely unappreciable by a passenger standing upon the platform of the car.

It would perhaps be well here to explain that my registering mechanism registered the difference of movement between the projecting ends of the truck frame and the sills of the car body immediately above it. Of course this was less than the motion at the extreme end of the platform of the car.

Thus it conclusively appears that as far as the galloping movement is concerned, there was no appreciable difference between the car when equipped with the spiral springs alone and the car equipped with elliptical and spiral springs in combination; but that the movement was smoother and more agreeable when the all-spiral springs were used than when the elliptical springs were introduced.

I would also remark that these maxima of galloping movements as shown in the figures that I have already given, only occurred when the car was being run at a rate of speed much faster than that of the *of the* ordinary schedule of the road.

I have also gone over and examined the records given by my instruments of all these trips sufficiently, to demonstrate that the actual plotting out of the rest of these records can show no material difference.

When the car was running at our lowest speed, to wit, nine miles an hour, the records show that the galloping motion was practically nothing.

163 When the speed was increased to that of the regular schedule running rate, that is, approximately thirteen and a half (13½) miles an hour, the average galloping was barely perceptible in each case and so nearly the same with both equipments that, though shown by my instruments, the difference would have been imperceptible to a passenger. The maximum galloping motion occurred at one point with the car equipped with all spiral springs and amounted to one and five-eighths (1⅝) inches as measured by my instruments. With the car equipped with elliptical and spiral springs as aforesaid, the maximum galloping was one and three-quarters (1¾) inches.

These figures, extended to the ends of the sills of the car, give a maximum gallop at that point of three and eighty-six one-hundredths (3.86) inches with the car equipped with elliptical and spiral springs; and three and fifty-nine one-hundredths (3.59) for the car equipped with spiral springs alone.

But these oscillations were abnormal. Both of them occurred at

one point only in the runs and were doubtless due to some local cause, and were not characteristic of the entire runs with either equipment.

I might add in regard to the general action and equivalency of springs the following:

It is a well-known fact to those skilled in the manufacture of springs that single-leaf elliptic springs have the same kind and character of action that spiral springs have when compressed and extended under a load.

It is also a well-known fact that the addition of leaves to elliptic springs tends to make them sluggish in action, because when leaves are added to single-leaf elliptic springs, they, of course, rest upon the main leaf; and as the springs are compressed and expanded, each superposed leaf must rub over the surface of the adjoining leaf or leaves at each compression and expansion of the springs.

Thus the contact of the several leaves, one with another,
164 causes friction between them, which must necessarily be overcome, thus tending to sluggish action both in the compression and the expansion of the springs. This friction is present in all leaf springs having more than one leaf, whether they be full-elliptic, semi-elliptic, quarter-elliptic or straight springs.

It is also a well-known fact to persons skilled in the spring art, that the action of semi-elliptic springs is identical in kind and character with that of full-elliptical springs. It must be so since a full-elliptic spring is simply two semi-elliptics, and the semi-elliptic springs used as in the Peckham patent No. 419,876, dated January 21, 1890, would, in respect to the frictional contact between its several leaves and its action on the compression and recovery, be substantially the same as the action of the full-elliptic springs of the Brill patent in suit and of the Peckham trucks here in question. In fact, the foregoing may be said to be the A, B, C of the spring-maker's art. Without this knowledge there would be no sufficient data from which to design the springs so as to adapt them to the work for which they are to be used.

GEO. L. FOWLER.

Subscribed and sworn to before me this 25th day of October, 1900.

WM. O'SHAUGHNESSY,
[SEAL.] *Notary Public, N. Y. Co.*

165 *Affidavit of James J. McGowan.*

United States Circuit Court, Southern District of New York.

JOHN A. BRILL & J. G. BRILL CO. ET ALS., Complainants,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL CO. ET ALS., Defendant-. } In Equity.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

James J. McGowan, being duly sworn, deposes and says as follows:

I was master mechanic for the Third Avenue Railroad Company, New York city, for about ten years and during that time had entire charge of the equipping, mounting and maintenance of the trucks and cars. My connection with that company ceased in the spring of 1900 when the road passed into the control of the Metropolitan Railroad Company.

While I was master mechanic of the road and some time during the fall of 1899, the power system was changed from a cable to an electric system. While said road was still operated by the cable system the company had in operation under its cars a number of trucks furnished by the Bemis Car Box Company, there being as near as I can recollect about 175 such trucks. I had entire charge of the maintenance of such trucks and of mounting them under the cars, and am entirely familiar with their construction and behavior, as I am also with the behavior and construction of other car trucks that the company used.

166 During the time that the said Bemis trucks were being used by the company, the company also had in operation about 175 Peckham trucks of the style shown in the annexed cut marked "Excelsior" taken from a Peckham catalogue.

The trucks furnished by the Bemis Car Box Company, and which I will call the Bemis truck, had a stationary frame, *i. e.*, one rigidly connected with the saddles straddling the axle boxes. This frame extended at each end a considerable distance beyond the wheels of the truck. Above this frame there was a second frame, which was composed really of the sills or base frame of the car body, which was correspondingly extended at the ends to be in length equal, or approximately equal, with the lower stationary frame; that is to say, the sills of the car body were of such length. Spiral springs were interposed between the lower stationary frame and the upper frame or car-body sills adjacent to the saddles, there being one spring on each side of each saddle. Between the ends of the stationary frame and the sills of the car body were interposed elliptical springs, there being two such springs at each end of the car arranged longitudinally. These elliptical springs were attached rigidly to the lower stationary frame, but were unattached to the upper frame or car-body sills; and on such sills above each elliptical spring was

a bifurcated block or shoe, the jaws of which extended down beyond the sides of the upper parts of the elliptical springs, but the face of which between such jaws did not come in contact with the elliptical springs, there being a considerable or very noticeable space between the upper faces of the elliptical springs and the faces of the shoes or bifurcated blocks. In these trucks, therefore, the weight of the car body and the initial passenger load was carried entirely by spiral springs applied at the saddles, and the elliptical springs only came into action to assist in carrying the load when the load had so increased as to sufficiently compress the spiral springs.

167 Although these trucks were used for some time they were very objectionable and unsatisfactory. When the wheels would strike a depression or inequality in the track, the effect would be to throw one end of the car up and the other down, causing what is commonly called among street railroad men "galloping." This was a constant source of annoyance, and moreover resulted in increased wear and tear on the track due to the pounding action of the truck. This behaviour of the Bemis trucks was so objectionable that we attempted to remedy it by interposing between the tops of each of the elliptical springs and the faces of the bifurcated shoes a block of wood. In applying them we jacked up the car body, interposed the blocks and bolted them to the upper frame or car-body sills. When so modified the elliptical springs acted constantly and conjointly with the spiral springs to carry the load, and the objection to which I have referred was in part obviated.

During the time we were so using the Bemis trucks, we were using, as already stated, a number of Peckham "Excelsior" trucks. In these trucks the lower stationary frame connected with the saddles had interposed between it and the upper frame, attached rigidly to the car body, a series of spiral springs adjacent to the saddles, and between the extended ends of the upper and lower frames, elliptical springs, two at each end of the car, longitudinally arranged and rigidly attached both to the upper and lower frames, as appears very clearly in the cut of the "Excelsior" truck hereto attached. In addition to what I have so far described, the bolts that ran through the spiral springs at each end of the car outside the wheel base, extended through a part of the lower or stationary frame, and each had a nut and washer or spring cup applied to their lower ends, and between the spring cup and the lower frame they were surrounded by spiral or helical springs, the reaction or ten-

168 sion of which was such as to resist the upward movement or vibration of the ends of the upper frame or car body, or in other words, to oppose "galloping."

Such Peckham trucks were entirely satisfactory in use, and were free from the objectionable behavior of the Bemis trucks which I have described.

At the time of changing from cable to electrical power, it was recognized that the objectionable features of the Bemis truck would be accentuated when the truck was loaded with the additional weight incident to the application of the electric motors; and because of this anticipated further objection and our dissatisfaction

with the behavior of the Bemis trucks, that is, their "galloping" action, it was concluded at the time the change was being made from cable to electric traction, which, as I now recollect, it was, as before stated, during the fall of 1899, to discontinue the use of the Bemis trucks entirely.

Up to the time that my connection with the Third Avenue railroad ceased, I had so dispensed with 100 Bemis trucks which were replaced by Peckham trucks having the same general construction and mode of operation which I have described in connection with the "Excelsior" truck, and which were of the general construction shown in the annexed cut of the extra strong "Extra Long" Peckham truck cut from the Peckham catalogue.

The 100 Bemis trucks discarded by the company up to the time I left were thrown into the scrap heap as entirely worthless, no attempt being made to utilize them; and up to the time of my leaving the company no Bemis car truck had been equipped with an electric motor.

JAMES J. McGOWAN.

Subscribed and sworn to before me this 25th day of October, 1900.
[SEAL.] WM. O'SHAUGHNESSY,
Notary Public, N. Y. Co.

(Here follows diagram marked p. 169.)

170 & 171 *Affidavit of Jacob R. Beetem.*

United States Circuit Court, Southern District of New York.

JOHN A. BRILL and J. G. BRILL COMPANY ET AL., Complainants,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY ET AL., Defendants.

COUNTY OF QUEENS, } *ss:*
State of New York, }

Jacob R. Beetem, being duly sworn, deposes and says: I live at Flushing, L. I., am vice-president and general manager of the New York & Queens County Railway Company and the New York & North Shore Railway Company, whose principal office or place of business is at 7 Borden avenue, in the first ward of the borough of Queens, formerly Long Island City.

I have been in the electric railway business as manager of the Atlantic Avenue Railroad of Brooklyn, the Scranton Railway of Scranton, Pa., and the Union Traction Company of Philadelphia, for about ten years. Prior to this I was engaged in the manufacture and sale of cars and trucks for steam railways, having learned my trade as a mechanic in the car shops at Carlisle, Pa. I am familiar with the construction and operation of nearly all of the different types of electric trucks, and especially those made by the Brill Com-

EXCELSIOR No. 7 B

DIMENSIONS: { Length, Wheel Base, 4 to 5 feet, as ordered. Gauge, Standard, 4 ft. 8½ inches. Height, Rail to Seat, 30 inches. " Open Car Truck, to suit length of Car Body.

Designed for Short and Medium Length Closed and Open Electric Cars.

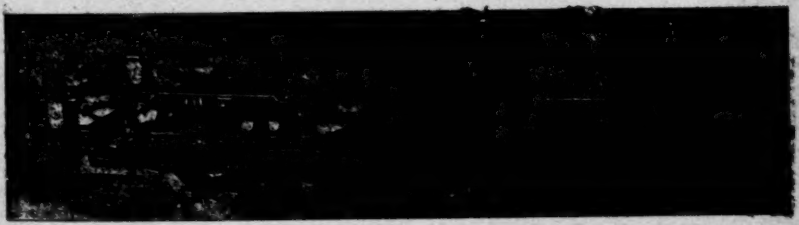
The Auto-Gallofoil Springs are concealed in these boxes. See Model

No. 4454
Truck
at
Peckham Co.
} p. 169

EXTRA STRONG, "EXTRA LONG" "Metropolitan Special"

Designed for Extra Heavy 20 to 24 Ft. Closed and 30 to 35 Ft. Open Cars.

DIMENSIONS: { Length, Wheel Base, 4 to 5 feet, as ordered. Gauge, Standard, 4 ft. 8½ inches. Height, Rail to Seat, 4 feet 4 inches. " Open Car Truck, to suit length of Car Body.



This Truck was designed Expressly for the Extra Long (32 Ft. Closed—33 Ft. over all) Electric Combination Cars of the Metropolitan Street Railway Co. of New York, where 100 are to be running at Times a Speed of Twenty Miles an Hour without Oscillation.

pany and the Peckham Company, having had a large number of them in use on the different railways under my management. Both the Brill and Peckham trucks are what is known as long spring base trucks, and are intended to prevent the oscilla-
172 tion of electric cars. The Brill truck referred to in this suit known as their number twenty-one (21) and shown and described in letters patent No. 478,218, granted to G. M. Brill, July 5th, 1892, has a truck frame with extended end sections supported from overhead by steel or iron rods passing over the tops of the journal box saddles. The car-supporting springs in this truck consist of eight spiral and four elliptic springs resting upon and supported by the side frames. The elliptic springs are rigidly bolted to the lower truck frame, but not to the top frame which is secured to the car body and rests upon eight spiral springs located each side of the saddles. Secured to the under side of the top frame is a cap or pocket to guide the elliptic spring, which is not secured rigidly to the top frame. The car body is supported upon the eight spiral springs, and does not come in contact with the elliptic springs until the spiral springs are sufficiently compressed (from one to two inches).

Electric cars are usually (including platforms) from twenty-six (26) to thirty (30) feet in length, and being limited to a seven-foot wheel base (distance from centre to centre of wheels) the ends of the car body will project from eight (8) to ten (10) feet beyond the outside of the wheel base; and when running at a speed of eight (8) miles or more an hour, a slight depression in the track will cause the car to "gallop," unless the rear end of the car body is so secured to the truck frame that it cannot rise.

In the Brill truck referred to in this suit, the car body is not so secured, and as the forward end of the car body goes down the rear end will rise up; and when the forward wheels get beyond the depression in the track (usually low rail joints) the rear wheels will run into it and cause the rear end of the car body to go down, and the car will continue to oscillate as long as there are any depressions in the track.

The construction of the Peckham truck differs from that
173 of the Brill truck in the construction of their side frames and the arrangement of the car-supporting springs. The side frames of the Peckham trucks, whether "Excelsior," "Standard," or "Extra Long," are constructed upon the principle of the cantilever bridge, the end extensions supporting the car springs, being supported from underneath by the lower member constructed in the shape of a cantilever truss. The arrangement of the car-supporting springs is such that the weight of the car body is first supported upon four elliptic springs which are rigidly secured between the top and bottom, and carry the greater part of the weight of the car body. The spirals, which are weaker, carry the remainder of the load.

To assist in preventing the oscillation of the cars, the Peckham trucks are provided with underneath "tension" springs, connected by means of bolts to the top truck frame near its ends, and when the

forward wheels run into depressions in the track and the forward end of the car body goes down, the rear end is prevented from going up unless it raises the truck frame, wheels, axles and the motor connected thereto, which it cannot do as their combined weight will counterbalance the weight of the overhang of the car body; and the result is, that the car cannot oscillate to the same extent as car bodies mounted on Brill trucks.

The prevention of oscillation in the Peckham trucks is due, first, to their long spring base (distance from centre to centre of extreme end springs), second, to the aid of underneath tension springs (located at each corner of the truck) and connected with the car sills by means of bolts extending upward.

With proper care to regulate the underneath tension springs, a Peckham truck of the extra-long type will run at a speed of fifteen to twenty miles an hour on an ordinary road-bed with very slight oscillation; while the Brill truck referred to in this suit, having a shorter spring base and no provision to hold the ends of the car body firmly to the truck frame, will not run ten miles an hour without excessive oscillation.

174 The elliptic springs in the Peckham trucks are rigidly secured to the truck frames both top and bottom. They are made stronger than the spiral springs and carry the greater part of the car; the spiral springs are made weaker and reinforce the elliptic springs as the load of the car increases. Being rigidly attached to the top and bottom members of the truck, the elliptic springs hold the car body firmly in place and prevent end and side thrusts.

In the trucks manufactured by the Brill Company the entire weight of the empty car body is carried upon the spiral springs as stipulated in their letters patent, page two (2), No. 478,218, while the elliptical springs are placed in such a way as to assist the spiral springs in resisting the depression of the car and preventing oscillation. The elliptical springs being of less height than the spiral springs and not being rigidly fastened to the top of the truck frame, do not come into action until the car body is depressed; and when the front end of the car body is depressed by the wheels running over a low rail joint, the car will oscillate when there is any slight irregularity in the road-bed, while in the Peckham truck the rigid contact of the elliptic springs with the top and bottom members of the truck frame holds the rear end of the car body firmly to the truck frame and prevents oscillation.

J. R. BEETEM.

County of Queens, } ss.:
State of New York, }

Jacob R. Beetem, being duly sworn, deposes and says that the above statement is true to his knowledge and belief.

J. R. BEETEM.

Sworn to before me this 26th day of October, 1900.

CHAS. BRESLOFF,

[SEAL.] *Notary Public, Queens Co.*

175 U. S. Circuit Court, Southern District of New York.

JOHN A. BRILL and J. G. BRILL COMPANY, Complainants,
against
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET AL., Defendants.

Affidavit of Henry F. Newbury on Behalf of Defendants.

CITY, STATE, AND COUNTY OF NEW YORK, *ss:*

Henry F. Newbury, being duly sworn, deposes and says as follows:

I am 58 years of age, reside at No. 142 Park place, borough of Brooklyn, city of New York, and am by trade a machinist.

When a young man I learned my trade and have worked more or less at that trade for twenty-five years or more, and while so engaged I became familiar with mechanical principles and their application in the construction and operation of machinery. I also became familiar with the designing of mechanical structures and the making of mechanical drawings and the reading of the same, and I have designed many mechanical structures of various kinds and characters, and have also constructed such structures with my own hands and superintended their construction by others.

For the past twenty years or so I have devoted a large proportion of my time to questions pertaining to patents and pat-
176 ented inventions, to controversies in the United States courts and elsewhere wherein patented inventions were the subject-matter. For the past twelve or fifteen years I have devoted almost my entire time to matters pertaining to such controversies, and during that time I have read the specifications and drawings of large numbers of patents both of this and foreign countries to learn wherein the mechanism and structures therein shown or described differ from or resemble other mechanisms or structures which may be in controversy or with which comparison was desired. I have frequently been called upon to testify as an expert witness in the United States courts where patented inventions were the subject-matter of controversy, and have been there called upon to point out the resemblances and the differences between the several mechanisms or structures which in each case were involved, and for the past twelve years or so almost my entire time has been devoted to these matters.

I have been called upon as an expert to testify in cases where many kinds of railroad appliances have been the subject-matter in controversy, including street railway trucks as well as switch mechanisms, switch-operating mechanism and different kinds of brake mechanisms, including air-brake mechanisms.

I have carefully read and studied the specification and drawings of the Brill patent in suit, No. 478,218, and believe that I am familiar with the street railway trucks therein shown and described and particularly pointed out in claims 1 and 2 thereof, which I under-

stand are the only claims at issue in the present case, and therefore will confine myself to such consideration as may explain my understanding of the combinations particularly pointed out in said claims.

I am also familiar with the history of this Brill patent in suit, as the same is disclosed in the file-wrapper and contents of the application in the Patent Office.

177 I am also familiar with the record in the suit of Brill against the Third Avenue Railroad Company referred to in the motion papers herein.

I am also familiar with the affidavits found in the motion papers herein, having carefully read and considered the same, and I have also carefully examined the several exhibits referred to.

The theory upon which the car truck acts, as described and claimed in the patent in suit, according to the complainant's witness, Akarman, as appears from the complainant's affidavits and Judge Shipman's decision in the Third Avenue case, is as follows. I quote from that part of Judge Shipman's decision wherein he quotes from the deposition of the witness, Akarman:

"From a practical observation my opinion is that the combination of an elliptic and spiral spring as appplied in trucks of this type breaks the rhythm of motion, or interrupts it. In trucks with all spiral springs, or, I should think, if it were possible to construct, a truck having all elliptic springs, the rhythm of motion is perfect; the springs acting in unison. In the truck, as previously described, having the combination of elliptic and spiral springs, the rhythm is broken, and the result is that the galloping or rocking motion was done away with."

According to well-known physical laws the rhythm of motion of spring-actuated parts, as for instance, the ends of tuning forks, as well as all other spring-actuated parts which respond to the spring action or tension stored up within them, depends wholly upon the characteristics of each individual part. Therefore, unless a series of springs have identically the same physical structure throughout their entire extent, there can be no rhythm of motion between them, and it is a physical impossibility with springs manufactured in quantities and in the manner they must be manufactured to sustain the weight of cars to have any real rhythm of motion between

178 the several springs. Therefore, it follows as a matter of course, to any mechanic or engineer at all familiar with the subject, that each individual spring has its own rhythm of movement and no two are exactly alike, and where they are not alike one necessarily interferes with the rhythm of the other. The mere differences necessarily present in the rolling of the material out of which springs are made render it extremely difficult and practically impossible to make two springs having exactly the same rhythm of movement. From this it follows that in a series of springs of any kind, made, as springs must be made for use in railroad cars, there is no such thing as a rhythm of movement between them. Of course, by great care, which would be impracticable in commercial use, one could select by repeated tests, a series

of four, eight or twelve springs which might have very near the same rhythm of movement, but this cannot be done in ordinary commercial work, and there is no occasion for it. From this it follows that there is no such thing as a rhythm of movement of the series of springs to be considered in this case.

Furthermore, with any series of springs in which one portion of the series is stronger than the other portion, there can be no rhythm of movement between the two portions, whether the springs of such series be all coiled springs, or be all leaf springs, whether full-elliptic, semi-elliptic or quarter-elliptic, or any other form, all these forms being known to those at all skilled in the art of springs, which of course not only includes the manufacture and use but also the designing for use of special springs for special purposes. From the foregoing it follows as a matter of course that in any series of springs wherein one is stronger than the other, there can be no rhythm of movement between the stronger and the weaker, as the stronger will control the weaker whether the stronger be of the same kind as those of the weaker or whether one portion is of one kind and another portion is of another kind, the stronger always,
179 under all circumstances, controlling the weaker. In such a case the stronger interferes with the weaker and *vice versa* and one tends to break up the rhythm of the other.

In fact this seems to be clearly recognized in the Brill patent in suit, and also in the file-wrapper and contents which show the history of that application as it proceeded on its way to a patent.

Because of the foregoing and other well-known facts, I am clearly of the opinion that there can be no difference whatever between the rhythm of movement generally considered of two series of springs where one is stronger than the other, whether such two series be all of the elliptic form, semi-elliptic form, or spiral form, or part of one and part of the other. In each case there is necessarily a difference in the rhythm of movement, and if there is any special advantage to be derived from this difference in the rhythm of movement between the two series of springs, it must be due to some special arrangement of two or more portions of the series in relation to each other by which such special advantage will be attained, and not from the inherent qualities of the springs themselves, which is always, under all circumstances, present.

As I understand this Brill patent in suit it is necessarily of a limited character, first, because of the statements contained therein; second, because of the history of its application in the Patent Office; and third, because spiral, elliptic and other kinds of springs have been used interchangeably, one for the other, in car and other constructions from almost the first introduction of railways in this country.

The specification of this patent describes a combination in a truck for four-wheel cars, of spiral and elliptic springs of a peculiar character, and does not, so far as I can find, anywhere suggest any other combination than this one, or that the result attained by this
180 peculiar and limited combination can be attained by any other combination of parts. In fact it was only by reason

of the limited character of this peculiar combination apparently that claims 1 and 2 were allowed by the examiner in charge of this Brill application.

The chief characteristic of this peculiar combination, so far as claims 1 and 2 (the only ones in controversy on this motion), are concerned, is that the spiral springs must necessarily be stronger than the elliptical springs, and thus enable the spiral springs to normally take the weight of the car and operate in the particular manner described in this Brill patent.

This mechanism is referred to on page 1, line 58 *et seq.*, wherein the specification states as follows:

"The upper chord is thus extended for the purpose of giving a firm bottom for the car and through the instrumentality of the supporting devices described further on, a greater carrying capacity. The spiral springs, which are supported by or upon the axle boxes, normally take the weight of the car."

In order that these spiral springs of this Brill truck may do this, they must necessarily be stronger than the elliptic springs, otherwise they could not normally take the weight of the car; and if they do not, they are not the spiral springs of this Brill patent.

On the same page the application of this Brill patent refers to some further attempts to prevent the end oscillation, or the so-called "galloping" action of car bodies, and after referring to such attempts, it states what the invention of this Brill patent consists in as follows:

"This has not been found to work satisfactorily, and an adaptation of my invention consists in making the axle-box springs comparatively weaker and slower than has formerly been done, and to place elliptic springs in such a way as to assist the spiral
181 springs in resisting the abnormal depression of the car and in equalizing the end oscillation of the same. The elliptical springs being slower in their action than the spiral springs."

In this statement the spiral springs referred to are to be comparatively weaker than the strong or heavy spiral springs mentioned in a preceding part of the specification. Again, on page 2 of the specification of this Brill patent, at line 121 *et seq.*, it is said:

"To this end I supplement the axle-box springs (spiral springs) by placing elliptical springs of slower action between the extended portions or sections of the side beams and upper chord, and I arrange them in respect to each other so that the elliptical springs will not come into play until after the axle-box springs have begun to compress, and the action of the spirals in lifting the car body is continued after the elliptical springs have ceased to act."

Again on page 3, line 74 *et seq.*, the specification refers to the arrangement and construction of the elliptical and spiral springs as follows:

"When the excessive loading is not present, the springs on the ends of the side beams (elliptical springs) act as buffers, the ordinary action of the car body on the truck being taken up by the spiral springs."

The specification describes at length at various places the con-

struction of the means employed to so attach the elliptical springs to the lower member, or chord, of the truck mechanism, that they do not connect with the upper member or chord of such mechanism, and also how they do not come into action until after the spiral springs have been considerably compressed.

It will be seen that not only does this Brill patent specifi-
182 cally state that the combination of elliptic and spiral springs set forth therein is one in which the spirals normally take the weight of the car, and, therefore, must normally take a portion of the load, before the elliptical springs can come into action; and in order that this may be the case, the elliptical springs must assist the spiral springs in resisting the abnormal depression of the car, as stated in this Brill patent, such elliptical springs must be weaker than the spirals.

Furthermore, in order that these elliptical springs may act as buffers, as explained in this Brill patent, they necessarily must come into action some time after the spiral springs are brought into action.

The applicant Brill during the pendency of his application for the patent in suit explained at length and with great detail what he meant in his specification by the word "slower" in connection with his springs, and he sums up, in his letter to the Patent Office, dated May 21, 1892, just what he means by "quick and slow springs," and does this in the following words:

"And, as applicant has previously endeavored to explain, quick and slow springs, mean substantially the same thing as springs hav-greater or lesser carrying capacity."

From this it will be seen that the elliptical springs of slower action found in the foregoing quotations from the specification of this Brill patent, mean springs having a lesser carrying capacity, i. e., weaker in strength than the spiral springs. This must be accepted, it seems to me, as the meaning of the word "slower" when used in connection with the elliptical springs in the foregoing quotations from the Brill patent.

I am confirmed in this understanding by the action of the applicant Brill in response to the action of the examiner when he cited against original claims 2 and 4 (now substantially claims 1
183 and 2), the Peckham patent No. 419,876. The examiner in his first action upon this Brill application, cited this Peckham patent and said,

"By reference to Peckham No. 419,876, January 21, 1890, it will be noticed in Figs. 4, 5 and 6 that semi-elliptic springs are used for the ends of the car."

To this applicant replied as follows:

"Peckham describes nothing about one set of springs being quicker or slower than the other, nor one series of springs being adapted to act prior to the other series."

I do not find any further reference to this Peckham patent in the file-wrapper and contents of the application for this Brill patent in suit, and apparently the Patent Office accepted this statement of applicant's as conclusive upon this matter; and thereafter its action

was based upon the understanding that claims 1 and 2 of the patent in suit were limited, not only to springs, one series of which was quicker than the other, or *vice versa*, but also to the description of the arrangement of the elliptic and spiral springs in the Brill patent, *i. e.*, the arrangement just heretofore referred to, which is characteristic of the combinations of said claims.

I am unable to find in this Brill patent in suit, or in the file-wrapper, any suggestion or intimation that any other combination of spiral and elliptical springs could be made by which the alleged new result is obtained, as set forth in the Brill patent, and the file-wrapper of the application for this patent. In fact, without the elliptical springs being weaker than the spiral springs, in this Brill construction, such elliptical springs could not come into play to modify the action of the spiral springs, as explained in said patent; and if they do not do this they would not operate as set forth, and would not be the springs therein referred to. If the elliptical
184 springs were the stronger of the two, so as to control the action of the spirals, then the effect would be substantially the same as if all the springs were elliptic; but with some of them weaker than others (those arranged as at the ends of the car); and, according to the decision of Judge Shipman in the Third Avenue case, such a combination of elliptic springs would not be that of the Brill patent, and would be, according to his holding, a portion of the prior art.

For the purpose of this affidavit, I shall assume that the particular combination of spiral and elliptic springs, shown and described in the Brill patent in suit, and particularly referred to in claims 1 and 2, is, as set forth in Judge Shipman's opinion in the Third Avenue case, when that opinion is considered in the light of the facts set forth in the records of that case, understanding that his language is not to go beyond a consideration of such facts and is not to include matters outside of that case, and I will adopt his line of reasoning as my own, and consider claims 1 and 2 of this Brill patent in the light thereof.

These claims read as follows:

1. "In a motor truck, the combination, with a stationary frame supported upon the running gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and movable frame, substantially as described.

2. "In a truck, a spring-supporting frame supported upon the running gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, substantially as described."

185 A careful reading of these two claims will disclose the fact to be that they do not specifically in terms mention the bringing into action of the elliptical springs after the spiral springs have

been partially compressed, and also that the spiral springs normally take the weight of the car, or words to that effect, or that the ordinary action of the car body on the truck is taken up by the spiral springs. But, as I understand them, on the above assumption and understanding of Judge Shipman's opinion, the spiral springs of those claims must necessarily be of such a character relatively to the elliptical, that they can and will normally take the weight of the car, as specifically stated in this Brill patent, and when they do this, the elliptical springs are necessarily weaker; that is, having a lesser carrying capacity than the spiral springs, as explained by the applicant in the file-wrapper and contents of this Brill application, and also, to enable the elliptical springs to act as buffers, as also explained in the Brill patent. The only combinations of spiral and elliptic springs suggested in this Brill patent is the one just referred to, and unless these two features of operation are necessarily present, such combinations cannot accomplish the work set forth in the patent as being accomplished by the combinations recited in said claims. It is to combinations having these features that the words, found at the end of these claims, refer as being combinations substantially described in the specification.

From the foregoing I understand that the Brill invention is limited to such a combination of elliptical and spiral springs as that set forth in the specification of the patent in suit, *i. e.*, a combination in which the spiral springs normally take the weight of the car, and the elliptic springs are slower (having a lesser carrying capacity) than the spiral springs, which elliptic springs come into action after the spiral springs have been compressed by the ordinary action of the car body on the truck; and it is not for
186 any and every combination of elliptic and spiral springs interposed between the independent frame or lower member of the truck mechanism and the sills of the car. If the combinations of the claims 1 and 2 are not limited as stated, then the mode of operation by which the alleged new result is attained cannot be had.

Furthermore, a combination of semi-elliptic and spiral springs combined with the two members of a truck frame, which correspond with the two members of the truck of the Brill patent, is clearly found in the Peckham patent # 419,876, which is the full equivalent of a combination of elliptic and spiral springs, when the particular arrangement and construction of the two set forth in the Brill patent in suit is not considered, that is, when the combination of elliptic and spiral springs is broadly considered.

It seems to me that this must have been the understanding of Judge Shipman of these claims in the Third Avenue case, when he refers to this Peckham patent and holds that there is no question as to the fact that this Peckham patent shows the features of a combination of semi-elliptic and spiral springs. In that portion of his opinion where he refers to this Peckham patent in connection with Brill patent in suit, he states his conclusion as to what this Peckham patent contains in the following words:

"This construction, although it contains the name semi-elliptic

spring has not the conjoint action of the patented combination, nor does it perform the functions of the Brill device."

If this be so, then it must necessarily be because of the limited character of the combination of claims 1 and 2 here in issue, and not because of the general and inherent character of all combinations of elliptic and spiral springs.

187 It is a well-known fact to persons skilled in the art of springs, that the action of semi-elliptic springs is identical in kind and character to that of full elliptics; in fact, it must be so since a full elliptic is simply two semi-elliptics. From this it follows, when semi-elliptics springs are used, as in this Peckham patent, # 419,876, it would be in effect, so far as the character of their action is concerned, substantially the same as if full-elliptic springs were employed, as shown in the Brill patent in suit.

In this connection it is to be borne in mind that this Brill patent, page 1, line 66, *et seq.*, states that the elliptic springs preferably are arranged longitudinally of the truck; and if this is the case, then it is permissible to place them crosswise thereof, as the semi-elliptic is placed in the Peckham patent, and such an arrangement would be as fully within the claims 1 and 2 of this Brill patent, as if they were arranged longitudinally of the truck.

The mere term "elliptical spring" does not imply a spring having a different kind of action from a spiral spring, because a single-leafed elliptical spring has substantially the same character of action that a spiral spring has; but the addition of more leaves to this single-leaf elliptic spring changes its character of action only to the extent that the rubbing action between the adjacent leaves cause friction, which has to be overcome, both in the compression of the spring and its expansion, and this is true whether the springs be of the elliptic form, semi-elliptic, quarter-elliptic, or straight form.

This friction between the adjacent leaves of all leafed springs, where there is more than a single leaf, tends to render the springs somewhat more sluggish than is the case when only a single leaf is employed. But this is all the difference that there is necessarily present between elliptic and spiral springs, and it is a difference that is inherent to all leafed and spiral springs where more

188 than a single leaf is employed. It would seem from the holding made by Judge Shipman in the Third Avenue case, that he had in mind the particular combinations of elliptic and spiral springs which is so specifically described in the Brill patent in suit, and he seems to clearly differentiate these Brill combinations from a general or broad combination of elliptic and spiral springs, such as is set forth in the Peckham patent, # 419,876, to which he refers.

The foregoing leads me inevitably to the conclusion that the understanding that I have heretofore expressed, as to the limited character of the combinations recited in claims 1 and 2 of this Brill patent in suit, is the correct one.

It is clearly manifest to me that if only the inherent and necessarily present qualities of elliptic and spiral springs are to be con-

sidered, without any reference to any special arrangement and construction of the same, that then the man who first made the combination of the two necessarily made the invention which Mr. Livermore states he understands to be recited in claims 1 and 2 of this Brill patent, as will be seen from the following quotations from his affidavit which will be found near the middle of page 8 of my copy which reads as follows (p. 64 of printed copy):

"That portion of the invention of the patent in suit which consists in the combination with the frame of the truck structure thus far described, of the sets of springs of a different character arranged as described to neutralize the tendency toward longitudinal oscillation of the car body upon said supporting frame is what I understand is referred to in claims 1 and 2 of the patent in suit."

I am unable to find that Mr. Livermore in describing the truck mechanism of the Brill patent in suit, makes any mention of this specific arrangement and construction of the spiral and elliptic
189 springs, which is so clearly set forth in said Brill patent; and so far as I can find he has nowhere placed any limitation on the combination of elliptic and spiral springs, so far as claim 1 of the Brill patent is concerned, and practically none, as regards claim 2.

If Mr. Livermore's understanding of what he calls the "primary invention," set forth in claims 1 and 2 of this Brill patent, is correct, then it follows as a necessary sequence that each and every combination of elliptic and spiral springs, no matter whether of the specific character described in the Brill patent, or not, is within that understanding, including the combination illustrated in Figs. 4 and 5 of the Peckham patent #419,876, and, furthermore, his understanding would seem to be in direct conflict with the holding of Judge Shipman in the Third Avenue case, which Mr. Livermore quotes with approval in his affidavit.

As before explained, I am familiar with the record in this Third Avenue case, and do not recall a single place wherein this question, as to whether claims 1 and 2 covered any and every combination of elliptic and spiral springs arranged between the two members of a truck mechanism, was raised.

The defendant's structure, as testified to in the Third Avenue case for the purposes of the issues of that case, was, in my opinion, a Chinese copy of the construction and arrangement of parts shown and described in the Brill patent in suit. In said defendant's structure, the spiral springs normally took the weight of the car, just as is set forth in the Brill patent in suit; also, the elliptic springs came into action subsequently to the coming into action of the spiral springs, and could at best only supplement the action of the spiral springs, so far as sustaining the load is concerned, and they would necessarily act as the elliptic springs act in the truck of the Brill patent in suit.

In the present case the facts, as I will hereafter point out, are entirely different, both in the construction and arrangement of
190 elliptical and spiral springs, from what is the case in the Brill patent in suit, or in defendant's trucks in the Third

Avenue case; in fact, the combinations of elliptic and spiral springs in the three forms of Peckham trucks, referred to in the moving papers herein, are so entirely different from the combinations pointed out in said claims, and in said defendant's trucks in the Third Avenue case, as to be incapable of having the mode of operation set forth for those combinations of said claims 1 and 2.

I am familiar with the three Peckham truck mechanisms, shown in Complainants' Exhibit I, and which have been designated in the moving papers herein in, and also in said exhibit as "Excelsior," "Standard" and "Extra Long."

In each of these three forms of Peckham trucks I understand that the elliptic springs are stronger than the spiral springs and necessarily act to always take the weight of the car, and its load; and as they are the stronger of the two they necessarily control the action of the spiral springs, and the car body must partake only of the movement of the elliptic springs, the spirals simply following without controlling the action of the elliptics, and consequently the car body acts substantially as it would act if all the springs were elliptic, with those in the positions where the spirals are now located weaker than those where the elliptics shown in said three forms of trucks are located. It must be manifest that the action of the car body upon these three forms of Peckham trucks must necessarily be substantially the same as if all the springs were of the elliptic form, but with the weaker and stronger arranged as the weaker and stronger springs are now shown in said exhibit as being arranged.

Not only are the elliptic springs in these three forms of Peckham trucks the stronger of the two sets in each truck, but each half of each one of the elliptic springs is rigidly tied to its respective member of the truck mechanism, so that not only do
191 these springs control the movement of the car body upon the compression and expansion of the springs, but in addition to this they perform a very important function. In fact, in my opinion, the only function for which they are placed in said trucks, is of so tying the two members of the truck mechanism together as to prevent end and sidewise swaying movement of the car body relatively to the lower member of the truck frame. This is a function which the elliptic springs of the Brill patent cannot perform for the simple reason they are not normally even in contact with the two members of the truck mechanism, much less being rigidly connected to both the upper and lower members, so as to in any way control any swaying motion of the car body; and consequently, they cannot in anywise tie the car body to the lower member of the truck mechanism, or have the mode of operation of the elliptic springs of this Brill patent in suit.

In addition to the elliptic springs in these three Peckham trucks being stronger than the spirals, and also of the elliptic springs being tied to the sills of the car and the lower member of the truck mechanism, each of said trucks are provided with means by which the car body and the lower member of the truck mechanism are elastically tied together with spiral springs interposed between the under side of the lower member of the truck frame and a bolt or post

fixedly attached to the car body which aids in checking or preventing the upward movement of the car body relative to the lower member of the truck mechanism. This is true of all three forms of trucks shown in Complainants' Exhibit "I," those spiral springs being exposed to view in the two forms therein designated as "Standard" and "Extra Long," but they are enclosed within a pocket, as it were, and not readily seen in that form of truck designated in said exhibit as "Excelsior." But nevertheless I

192 understand that they are as fully present in this "Excelsior" truck as they are in the "Standard" and "Extra Long," the only difference being that in the "Standard" and "Extra Long" the springs are exposed to view, while such is not the case in the "Excelsior" truck.

These spiral springs are placed in such relation to the under side of the lower member of the truck mechanism that they will be further compressed upon the upward movement of the car body beyond its normal position, when without its load, and the further compression of these spiral springs will be in proportion to such upward movement of the car body until they are fully compressed, when they positively arrest such upward movement. When this upward movement of the car body is thus arrested, it cannot move further upward without lifting the lower member of the truck frame and its connected parts. But as the weight of such truck frame and its connected parts is greater than the overhanging portion of the car body, the car body necessarily cannot move upward beyond the point where the spiral springs are fully compressed. I will designate these spiral springs which cushion and may wholly arrest the upward movement of the car body, as upward checking springs.

The presence of these upward checking springs in these several Peckham trucks is in my opinion a feature of great importance in said trucks. In fact it is by them that the excessive end oscillation or so-called galloping action is prevented in the car bodies mounted upon such trucks, and not through the presence of any combination of spiral and elliptic springs found therein.

In these several Peckham trucks an entirely different principle of operation is relied upon from that set forth in the Brill patent in suit for preventing excessive end oscillation, or the galloping action, of car bodies when running over undulating portions of the road-bed, or where there are depressions in the road-bed from low joints or any other cause.

193 I am clearly of the opinion, without the presence of these upward checking springs, or any other special device to take their place in the several Peckham trucks, that there would be fully as much end oscillation or galloping action present as there would be in trucks where all the springs (interposed between the two members of the truck mechanism), are elliptic, or all are spiral, or where part are elliptic and part spiral, as the same are constructed and arranged in the several Peckham trucks designated as "Excelsior," "Standard" and "Extra Long" in said Exhibit "I."

From a mechanical standpoint it is clear that the use of the upward checking springs arranged as shown in the several Peckham

trucks, are well calculated to accomplish the work which they are designed to accomplish, that is, the prevention of excessive end osscillation, or the galloping action, of car bodies, when passing over depressions in the road-bed.

It is clearly manifest that the principle upon which they operate is radically different from any principle of operation set forth in the Brill patent in suit, as the operation of the specific combination of elliptic and spiral springs pointed out in claims 1 and 2 of that patent. In fact there is no similarity between the mode of operations of the two combinations, nor is there any similarity between the means employed, except the mere fact that in one case spiral springs arranged in one special manner, are employed and in the other case a combination of spiral and elliptic springs arranged in another special manner (as set forth in the Brill patent), is employed. In this connection it is to be remembered that Mr. Livermore admits, near the bottom of page 15 of my copy of his affidavit (p. 69 of printed copy), that these spiral springs, which he terms "underlying checking springs," were old prior to the application of the Brill patent in suit. If this be so, then Mr. Peckham had proceeded
194 upon lines which were known prior to Brill and has in no way followed in the lines in which Mr. Brill has proceeded, the two lines being as distinct as it would seem possible for two lines of improvement to be.

I understand from Mr. Livermore's affidavit, in that portion immediately following the one just referred to, that these underlying checking springs were in practice ineffectual for accomplishing the prevention of the galloping or excessive end oscillation of the car bodies; but I am at a loss to understand how it would be possible for them to be ineffectual, or from where he obtains his information as to these underlying, checking springs being in practice ineffectual for this purpose. I have frequently observed Peckham trucks of the form designated as "Standard" and "Extra Long" in said Exhibit "I" in operation, and I have especially noted the fact that said under checking springs or "underlying checking springs" as arranged in those trucks did operate to prevent end oscillation, and anything which tends to do this necessarily tends to prevent excessive end oscillation or the galloping action of the car body when passing over depressions in the road-bed.

I have recently made tests with a car provided with a Peckham truck mechanism of the kind designated in said Exhibit 1 as "Extra Long." These tests were made to ascertain both by observation and experiment the action of said truck in regard to end oscillation, or what has been termed in this case the "galloping" action of the car body on a short wheel base. These tests were made the present week on that portion of road-bed between the Thirty-fourth Street ferry in Long Island City (borough of Queens, city of New York) and the Ninety-second Street ferry in Astoria. This road-bed is a portion of the system operated by the N. Y. and Q. Co. Railway Company. Certain portions of this road-bed are in bad condition so far as concerns low spots in the track, the rails being of
195 the form known as "composite rails." In fact I am credibly informed by different persons familiar with all portions of the

road-bed of the entire system of the N. Y. & Queens County Railroad Company, that this portion is the worst of all portions; and it is for this reason that this portion of the road-bed of said company was selected for these tests, and from riding over considerable of the other portions of the said system which have the reputation of being the next worst, as well as other portions considered good, I fully believe that my information as to the condition of the road-bed between Thirty-fourth and Ninety-second Street ferries, is correct. The car used was of the open or summer type and its body was 30′ 10″ over all in length and the truck had a wheel base of 6′ 6″. These tests were made in company with Mr. Phillips Abbott, Mr. Fowler, Mr. Price and others. This car during the first series of tests was provided with all spiral springs between the two members of the truck mechanism and in addition it had spiral springs, which I have heretofore termed "upward checking springs," which operated, as I have heretofore explained those springs operate.

In the second series of tests the spiral springs located in the positions that the elliptic springs are shown as being located in the cut in said Exhibit I, designated as "Extra Long," was taken out and elliptic springs of similar capacity were substituted. The upward checking spiral springs remained in the car in the second series of tests, the same as they were in the first series. The only difference in the car in the second series of tests from that of the first was the substitution for the spiral springs, elliptics in the second series, everything else remaining the same. This car was provided with a recording mechanism which made a record of the revolutions of one pair of the wheels of the truck mechanism and the time during which such revolutions took place. In addition it made a record of the oscillations of the ends of the car by which the extent of
196 such oscillations could be accurately determined. It also made a record of the oscillations of one end of the car. These records were made on a strip of paper passed through the recording mechanism as the car ran over the track.

I carefully noted the operation of this recording apparatus in connection with the end oscillations of the car, and I know, as a matter of fact, that the parts of the apparatus which made the record of these oscillations upon the strip of paper always responded to the end oscillations of the car, and I also know that the extent of such end oscillations was properly recorded by the apparatus. These two series of tests were made under as near the same conditions of speed, as was possible to attain under the conditions and circumstances of ordinary street railway traffic and the experience of a skillful motorman could attain, so that the comparison between the two series might be made upon substantially the same basis.

From my own observations of the records of the movements of the car I know that the extent of the oscillations of the ends of the car was substantially the same in both series of tests, and this fact can be made plain from the records which were taken.

There was quite a marked difference in the character of the oscillations of the ends of the car in the two series of tests. In the series where all spiral springs were used the oscillations on the upward

movement, as well as on the downward movement, were more gradual and, therefore easier than was the case with the series of tests, wherein the elliptic springs were used. In these latter tests the oscillations of the ends of the car were more quick and jerky than in the series where all spiral springs were used and, therefore, the car with elliptic springs was much the harder riding of the two. This fact makes plain that, so far as an easy-riding car is concerned, the elliptic springs in these Peckham trucks are a disadvantage when a light load is in the car, as was the case during these two
197 series of tests, the load consisting of five persons besides the conductor and the motorman.

So far as I have been able to learn Mr. Livermore entirely overlooks the fact that in the said Peckham trucks the elliptic springs are the stronger of the two sets and that they normally take the weight of the car, and, therefore, as they do this and are placed nearer the end of the car they support such ends to a greater extent than would be possible when the spiral springs are the stronger of the two and are arranged between the saddles and the car body, as in the case of the Brill patent in suit.

When the springs are arranged between the saddles and the car body and are the stronger springs, they normally take the weight of the car, as stated in the Brill patent, and as a matter of course, the main support or spring base of the car body is only but a little longer than that of the wheel base; while in the case of the three forms of the Peckham truck, where the elliptic springs are the stronger of the two sets and always take their proportion of the weight of the car, the support or spring base of the car is more extended than in Brill and much longer than the wheel base, being in the case of the Peckham "Excelsior" truck almost the entire length of the truck frame, while in the "Standard" it is of almost the same length, which is also true of the "Extra Long." In each of the three cases the support or spring base of the car body is much extended beyond the length of the wheel base itself. This manifestly is not the same result, nor can the two sets of springs work substantially the same in the Peckham trucks, as they do in the Brill.

I do not understand that Mr. Livermore himself has made any investigation whatever, at least, if he has I fail to find any mention of it in his affidavit, and I feel confident that had he made the necessary investigations he would not have made the statements
198 found in his affidavit, as he would have found them contrary to the facts, as such facts actually exist.

I also cannot agree with Mr. Livermore that the feature in said Peckham trucks of rigidly connecting the elliptic springs with the upper chord or movable part of the truck frame, is material only in connection with the subject-matter of the claims relating to the subsidiary feature of the Brill invention before referred to, namely, the combinations recited in claims 9, 10, 11 and 14, which were in issue in the Third Avenue case, but not in the present motion; and for the reasons heretofore stated, one only of which I will call special attention to, and that is to enable the said elliptic springs to tie together the two ends of the truck mechanism against longitudinal

and lateral swaying motion, but not in the vertical direction, as before explained, except that the elliptic springs of these Peckham trucks are thus tied to both members of the truck mechanism they cannot serve the only practical function which their presence calls for. Mr. Livermore, near the top of page 17, admits that these elliptic springs, by reason of their being tied to both members of the truck mechanism might serve the function of preventing the car body at one end from being lifted entirely from its spring, which in the old constructions, to which he referred, might occur, and also might occur in the Brill construction under excessive end oscillation where such a thing could only occur.

I also cannot agree with Mr. Livermore in that so far as regards the normal operation of elliptic springs in preventing a pitching movement of the car by acquiring a rhythmical action and consequently increasing in amplitude the springs when connected with the car body, as in the Peckham trucks have the same effect as when not so connected, because if they have the action which Mr. Livermore admits they have (*i. e.*, preventing the car body at one end from being lifted from its spring), they must necessarily pre-
199 vent, to that extent, this excessive end oscillation, which is something they could not do if they were disconnected, as in the Brill patent, therefore the effect is different, as must be seen by Mr. Livermore's own admission.

It is a mechanical axiom, that the nearer a resistance is placed to the point where it is to offer its resistance, the more effectual it will be in accomplishing the desired result, and, therefore, the nearer the ends of the car you can place the springs which are to support it, the greater will be the resistance to any oscillation of the car which must necessarily oscillate very nearly upon the center of its load relatively to its support; and therefore, Mr. Livermore's statement regarding the effect of the spiral springs in the case of the Peckham's trucks, where they are the weaker of the two sets being all included in the space within the elliptic springs or nearly within, or partly within, is contrary to such axiom. This is true whether the spiral springs are the weaker or the stronger of the two sets.

In this connection it is to be remembered that the galloping action or excessive end oscillation of four-wheel cars having long bodies has never been fully overcome and more or less of it on very bad road-beds is present today, as I know by actual experience. In fact one of the objects of the introduction into general use, wherever the track will warrant it, of double-truck cars, that is, a complete truck under each end of the car, has been to do away with this excessive end oscillation; and it does it by supporting the car body near each of its ends, leaving the center of the car body unconnected with truck mechanism. In this case there is simply the rise and fall of each end of the car, due to the rise and fall of the trucks as they pass over the road-bed.

I cannot agree with Mr. Livermore that the prior state of the art does not contain any suggestion whatever of the employment
200 of two classes of springs acting in conjunction with one another to support the car body in such a manner as to fully cushion

the movements of the same and to prevent excessive longitudinal vibration or rocking movement of the car. I understand that the longitudinal vibration referred to is that which produces a rocking movement or galloping action of the car, as that has heretofore been explained in the motion papers herein. The Peckham patent #419,876, which is held by Judge Shipman to be prior in its application to the date of the Brill invention of the patent in suit, manifestly contains such a suggestion, as will be seen upon reference to the specification and the construction shown and described.

On page 1, line 9, etc., it is stated:

"This invention consists in a novel construction of a car truck designed to afford spring supports under the end portions of the car body as well as at the axles, and thus support said body nearly throughout its length, and also obviate in a great measure the vertical oscillation of the same when moving over an undulating track."

On same page, line 22, etc., this Peckham patent states:

"Fig. 4 is a side elevation of a modification of my improved car truck. Fig. 5 is an end elevation of the same."

Here manifestly was a suggestion in the prior art of just what Mr. Livermore says he is unable to find, and yet he refers to this same patent. The only difference in Mr. Livermore's understanding of the invention pointed out in claims 1 and 2 of this Brill patent and this Peckham construction, which is not only shown and described, but which is designed to accomplish this same result, is that in Brill there are full-elliptic springs, and in the Peckham semi-elliptic; and apparently also that this Peckham patent
201 in words does not specifically state what every mechanic knew without its stating, namely, that there were two kinds of springs as shown and described, they had certain inherent characteristics which must be availed of by reason of their very presence in the structure, and it was unnecessary to say more than is said in this Peckham patent regarding this matter, if any broad combination of elliptic and spiral springs is pointed out in said claims 1 and 2, such as Mr. Livermore states his understanding of said claims to be.

Of course the specific and limited combination of elliptic and spiral springs, where the spirals are the stronger of the two and normally take the weight of the car, as set forth in the Brill patent, is not referred to in terms in this Peckham patent, but the general combination is therein shown and described; and as every mechanic knows, the combination of semi-elliptic and spiral springs, arranged as there shown, cannot exist without the inherent qualities of such springs being present and their actions availed of.

Any mechanic skilled in the art of street or truck construction is necessarily familiar with the characteristics of all kinds of springs, and he would know how one affected the other, and it would be unnecessary to tell him. This might be different to those wholly unacquainted with the art, and having no practical knowledge of the subject-matter of springs, and their well-known and recognized modes of operation, and the reasons why they operate in any given way.

It is to persons skilled in the art of street-car truck construction that this Peckham, as well as the Brill and other patents relating to this art, are addressed, and not to those unfamiliar with the facts known to all mechanics, and these facts might be said to be the A, B, C's of their business.

A careful consideration of all the facts referred to by Mr.
202 Livermore, and also those which he has overlooked or ignored, and heretofore mentioned by me, both in connection with the Brill patent in suit, the file-wrapper and contents of the application therefor, this Peckham patent 419,876, and the construction of the Peckham "Excelsior," "Standard" and "Extra Long" trucks, brings me inevitably to the conclusion,

1. That the combinations pointed out in claims 1 and 2 of the patent in suit are limited to the spiral springs of a truck of a four-wheel car being the stronger of the two and normally taking the weight of the car, and that such claims do not take in every combination of elliptic and spiral springs, nor a combination of elliptic and spiral springs broadly considered, and

2. That the Peckham "Excelsior," "Standard" and "Extra Long" trucks do not embody in substance the combinations particularly pointed out in said claims 1 and 2 of the Brill patent in suit.

In forming these conclusions, I do not overlook the fact that there is a difference between the location of the spiral and elliptic springs in the "Excelsior" truck from that shown of the Peckham "Standard" and "Extra Long" trucks; but for the purpose of this affidavit, and in view of the opinion of Mr. Livermore that there is no material difference between the three trucks so far as concerns the combinations recited in said claims 1 and 2, I will only call attention very briefly to said differences. As before explained, Mr. Livermore has apparently overlooked the fact that the elliptic springs are stronger than the spiral springs, and therefore they necessarily control, not only the compression of the spiral springs but also their expansion, and in such a case they would do this substantially the same in one case as in the other. The fact to which I desire to especially call attention, is that by reason of these elliptic springs being the stronger of the two, they nec-
essarily support the load somewhat nearer the end of the
203 car in the "Excelsior" truck than is the case in the "Standard" and "Extra Long" trucks, but this difference is made up by the supplemental support of the spiral spring in the "Standard" truck and the double spiral springs in the "Extra Long" truck, and therefore by reason of the extended length of support, or spring base, the end oscillation of the car is necessarily reduced over what it would be if the spiral springs were arranged as in the Brill construction between the saddles and the upper chord or movable frame of the truck mechanism.

I cannot agree with Mr. Livermore that inventors did not devise some adequate means for preventing the excessive end oscillation of four-wheeled cars, because it is admitted that extended side beams with all spiral springs existed prior to the date of the Brill invention, and it also is admitted that the underlying checking springs

of the Peckham construction was devised prior to the invention of the Brill patent in suit; and I know as a matter of fact from actual experience that with all spiral springs, and said underlying checking springs, there is at least as little excessive end oscillation or galloping motion as is found in any of the Brill cars provided with elliptic and spiral springs, as shown in the Brill patent in suit, on which I have ever ridden, and I have ridden on many of them. I also know by actual experience that with all spiral springs in the Peckham "Extra Long" truck and no elliptics present, but with the underlying checking springs present, there is substantially as little excessive end oscillation or galloping motion to the car as there is with the elliptic springs and spiral springs present shown in the cut designated as "Extra Long" in said Exhibit "I."

I cannot agree with Mr. Livermore that in the Peckham "Standard" and "Extra Long" trucks it is immaterial whether the springs rest directly upon the saddle or upon the frame adjacent to the
204 saddles, and that it is only necessary that these spiral springs should be distributed sufficiently lengthwise of the independent frame and car body to form an efficient and stable support for the car, because if such were the case, then manifestly claim 2 would be in substance identical with claim 1. The language of claim 2 is specific so far as concerns this element and locates the spiral springs beyond question. The claim reading in this respect as follows:

"Spiral springs located between the saddles and movable frame,"

and it does not provide for their being located anywhere else, whereas claim 1 purports to be in this respect simply located "between movable and stationary frames." If Mr. Livermore's contention as to claim 2 is the correct one, then manifestly all claim 2 requires is the same as in claim 1, that is, that the spiral springs be located between the movable and stationary frames; or, in other words, Mr. Livermore would read out of claim 2 the statement that the spiral springs are to be located between the saddles and the movable frame, and import into it the language of claim 1, thus making the two in substance the same.

He admits that there are no spiral springs in these two Peckham trucks located between the saddles and the movable frame, and therefore I need not explain the construction of these two trucks in this respect.

I have carefully examined the photolithographic drawings attached to the affidavit of C. W. Benjamin found in the moving papers herein, which drawings purport to represent the Peckham "Excelsior," "Standard" and "Extra Long" trucks, but they do not do this correctly, because they omit to show any of the upward or underlying checking springs to which reference has been
205 made, and which in the "Standard" and "Extra Long" trucks are clearly shown in Complainants' Exhibit I.

Without these upward or underlying checking springs being present, those drawings cannot show with substantial correctness the Peckham "Excelsior," "Standard" and "Extra Long" trucks

here in issue. By reason of this fact it would seem unnecessary to further refer to these drawings and the affidavit of Mr. Benjamin.

Because of all the foregoing I am clearly of the opinion that the Peckham "Excelsior," "Standard" and "Extra Long" trucks do not embody in substance the combinations recited in claims 1 and 2 of the Brill patent in suit; and also, that the elliptic and spiral springs therein found do not and cannot have the mode of operation that is called for in the Brill patent in suit.

(Signed) HENRY F. NEWBURY.

Subscribed and sworn to before me this 26th day of October, 1900.

ALONZO C. FARNHAM,
[SEAL.] *Notary Public, King County.*

Certificate filed in New York Co.

206 United States Circuit Court, Southern District of New York.
In Equity.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants,
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET ALS., Defendants.

Affidavit of Phillips Abbott for Defendants.

On motion for preliminary injunction.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

Phillips Abbott, being duly sworn, deposes and says:

I am fifty-one years of age, reside at 128 Gates avenue, Brooklyn, N. Y., and am a solicitor of patents. I have practiced my said profession continuously in the city of New York for upwards of thirty years last past. During that time I have applied for and obtained a large number of letters patent in this and foreign countries. I have very often been called upon to give my opinion on questions of patentability and infringement, and in so doing to compare different letters patent, and letters patent with mechanical structures. During the last fifteen years I have been frequently called upon to act as mechanical expert in causes pending before the United States circuit court, in various districts and circuits, and also in interference cases before the Patent Office.

207 In the course of my practice I have frequently considered as expert and otherwise, structures and letters patent pertaining to car construction, trucks, road-beds, railroad switches, and similar railway appliances.

I have read, and I believe I understand, the United States letters patent granted to George M. Brill, No. 478,218, dated July 5th, 1892; also the complainant's moving affidavits on the motion for preliminary injunction herein and the exhibits thereto attached. I have

also read portions of the testimony given in the case of John A. Brill *vs.* The Third Avenue Railroad Co., and the decision of Judge Shipman in said case at final hearing.

I find that the invention described and claimed in the said Brill patent No. 478,218 is generally stated as follows:

The specification briefly recites the art as it existed prior to the time of the alleged invention, and in so doing states, among other things, that as the carrying capacity of street cars increased, due to the superior motive power of electricity as compared with horse power, the old system of spring-supporting the car bodies was found insufficient, and also, since the wheel base of the cars, *i. e.*, the distance between the points where the wheels rest on the track, was necessarily limited in order that short curves could be rounded, the increased size (particularly the length of the cars) made the galloping action, or excessive end oscillation, objectionable.

The patent further states that prior to the time of Brill's alleged invention it had been found necessary, in order to support the heavier cars and loads, to "use springs which are stronger than usual to support the car body on the truck. These heavy springs have their disadvantages as they are found to be too quick in their action," *i. e.*, too stiff, which made empty or partially loaded
208 cars ride very rough. And it refers to attempts which have been made to obviate the stated difficulties.

The specification then defines the invention of Brill as having two marked characteristics whereby it is differentiated from the prior art. One of these characteristics is that the car body shall be normally supported upon the truck by spiral springs located near the axle boxes, which shall not be so stiff or "quick" as the very rigid spiral springs alluded to in the old art, in order that when the car is empty or carrying a small load it may ride easily and smoothly and be free from the rigidity which would necessarily be present were the car in its then condition supported upon heavy and stiff springs adequate to support a heavy load. And it was also to have elliptical springs so combined with the spiral springs as that when a heavy load was present, or the car subjected to abnormal depressing influences—for instance, rapid travel over a rough road-bed—then these elliptical springs would be called into action in aid of, or, as the patent says, "supplemental to," the spiral springs. The sum of the upholding power of these two sets of springs—the spiral and the elliptical—taken together might be as great as the power of the very stiff spiral springs formerly used. The net result of this construction and combination, which constitutes the invention of the patent, is that the inventor may secure easy, smooth, resilient riding of empty or lightly loaded cars, because of the spiral springs, which are to be weak relative to the exceedingly stiff spirals formerly used, and yet have present in the structure means adequate to meet the demands of a heavy load or rapid riding over rough road-bed: to wit, the elliptical springs. They, however, are not to be called into action until required by such abnormal conditions; at all other times they will be simply carried by the truck, inactive but
209 always present ready for use. The above is stated to be the main object of the invention (see line 11 *et seq.*, page 1).

As an incident of the above construction, the inventor also states (page 1, line 16, *et seq.*), that the "invention is also intended to overcome in a measure the end vibration or oscillation of the car body."

That the foregoing is a correct statement of the invention of the patent is abundantly shown by the specification, as follows: I will not refer to the portions which recite the old art, nor that just stated, merely those which define the invention.

At line 66, page 1, the specification reads:

"Between the extended sections of the upper chord and the side beams I place elliptical springs which perfectly extend longitudinally of the truck and which are so disposed that they will not be brought into action until the weight of the load on the axle-box springs begins to depress said springs abnormally; then the elliptical springs begin to act and assist the spiral springs in resisting the pressure of the load."

At line 101, page 1:

"And an adaptation of my invention consists in making the axle-box springs comparatively weaker and slower than has formerly been done, and to place elliptical springs in such a way as to assist the spiral springs in resisting the abnormal depression of the car."

At line 116, page 2:

"It is therefore clear that more than the ordinary load is intended to be carried on this structure, and for this reason more than ordinary devices for spring-supporting the car body are necessary. To this end I supplement the axle-box springs by placing elliptical springs of slower action between the extended portions or sections of the side beams and upper chord, and so arrange them in respect to each other that the elliptical springs will not come into play until after the axle-box springs have begun to compress, and the action of the spirals in lifting the car body is continued after the elliptical springs have ceased to act. The devices which secure the elliptical springs between the side beams and the upper chord are devised to permit one end of the upper chord to approach the side beams and the other end to be elevated, as will occur in the act of oscillation, one set of elliptical springs being compressed, while the other remains in its normal condition."

At line 25, page 3:

"From the foregoing structure it will be seen that the springs are rigidly secured to the side beams. They, however, are not secured rigidly to the upper chord, so that any upward movement of it will not affect them. The upper chord, however, is provided with means for retaining the upper half of the springs perpendicular to the side beams."

At line 39, page 3:

"While space is left between the inner top portion of the cap and the top of the spring to permit the upper cord to be depressed some distance before the cap begins to depress the elliptical spring."

At line 69, page 3:

"When by reason of excessive loading of the car body and consequent depression of the springs a portion of this action would be

taken on the springs supported on the ends of the side beams. When the excessive loading is not present, the springs on the ends of the side beams act as buffers, the ordinary action of the car body on the truck being taken up by the spiral springs."

These portions of the specification clearly necessitate as
211 fundamental features of the invention, without which its combination and method of operation will not be present, spiral springs located near the axle boxes which, although they may be less powerful than the very stiff ones used in the old art, must nevertheless be stronger than the elliptical springs, because it is over and over again stated that they carry the car body and its load during all normal conditions; and also elliptical springs, which may run longitudinally of the truck or laterally thereof, because the inventor states, at line 67, page 1, that they "preferably" extend longitudinally, thus obviously including the transverse position as well. And these elliptical springs must necessarily be of less power than the spirals and are to be employed as supplements to them, being called into action only when conditions are abnormal.

Not only do the statements in the specification, above referred to, necessitate the presence in the structure of springs having the stated characteristics and bearing the stated relation to each other, but the prior art with which the applicant, Mr. Brill, was confronted, precludes a broader construction. This is shown in the history of the case as follows:

The file-wrapper & contents show that the case as originally filed embodied a large number of claims. Many of them, including the first four, were rejected on the Peckham patent 419,876 of January 21, 1890. In the applicant's answer to this, filed Sept. 21, 1891, he says, among other things:

"Robinson of record does not show nor describe the arrangement of springs of varying tension, nor springs adapted to supplement the action of other springs, nor springs coming into action before the others, nor the combination of spiral and elliptical springs for supporting the movable frame of the truck.

"Taylor of record does not show nor describe springs of
212 varying tension interposed between the movable frame and stationary frame; * * * nor does he show one series of springs adapted to act before the other, one supplementing the other.

"Peckham describes nothing about one set of springs being quicker or slower than the other, nor one series of springs being adapted to act prior to the other series."

In the official letter of October 21, 1891, the examiner says:

"It is not understood what is meant by saying 'one set of springs being slower in their action' than the other set, as set forth in claim 1 and in other claims. All that can be said is that one set of springs do not take a bearing or do not come into action until the other set have been partially compressed, and this quality is set forth in some of the claims. It is not seen how slow springs or fast springs can be properly a basis for claims.'"

In answer to this the applicant replied explaining that the terms

"quick" and "slow" springs were synonymous with the terms "stronger" or "weaker," and in attempting to differentiate his claims from the prior art cited by the examiner, says:

"Applicant has placed spiral springs primarily to support the weight of the car body, and has used the elliptical springs for the purpose of assisting the spiral springs in this regard after a certain compression of the spiral springs has been had. When the car body is depressed the spiral springs begin to take up this action, and a further depression of the car body falls upon both the spiral and the elliptical springs, the spiral springs sustaining the greatest amount of the weight. On the recovery the spiral springs exert the greatest lifting power, and by reason of their acting quicker than the elliptical springs, commence the lifting action before the elliptical springs come into play. The elliptical springs follow the spiral springs in the upward movement of the car body, and
213 during this upward movement, as well as at other times, they also act as equalizers, counteracting the end oscillation of the car body.

* * * * * * *

It is proposed in the present structure to use spiral springs slower than usual, and to assist the action of the spiral springs by elliptical springs slower in their action than the spiral springs, so that the spiral springs will permit the car body to ride easier and smoother, and the elliptical springs assisting the spiral springs after a certain amount of moving by the spiral springs has been had."

The examiner persisted in rejecting the claims 1, 2, 3 and 4, and the applicant in his letter of April 21, 1892, urged their allowance, stating persistently that his claims meant something different from the Peckham patent 419,876 and the others cited, saying:

"Applicant would state that he is not endeavoring to obtain a claim for the combination of quick and slow springs solely, but he is endeavoring to obtain claims for the combination with other elements of springs having certain capacities, by which combination results and modes of operation are obtained which are not shown or described in any patent heretofore cited by the office. * * *

As applicant has previously endeavored to explain, quick and slow springs means substantially the same thing as springs having lesser or greater carrying capacity. * * *

However, claims 1, 2, 3, 4 (as per last official letter), embody structural features in addition to those of the springs before stated."

The then pending claims 2 and 4 are substantially the claims 1 and 2 of the patent.

Thereupon, on May 24th, 1892, the examiner again rejected claims 1, 2, 3 and 4 "for reasons before given," and on May 27th, 1892, the applicant cancelled claims 1 and 3, claims 2 and 4 thus be-
214 coming 1 and 2 of the application; and thereafter, on June 1st, 1892, the examiner allowed the claims as then presented. The record does not disclose what transpired between the rejection of the four claims on May 27th, 1892, and the approval of the 2d and 4th on June 1st, 1892.

In view of these repeated assertions by applicant that his invention, as intended to be claimed in the claims 1, 2, 3 and 4 (two of which, the 2d and 4th, are the very claims 1 and 2 of the patent here under consideration), required the combination of spiral springs to normally support the car and its load, and weaker elliptical springs to act as supplements to the spirals, and at a later time, the examiner appears to have allowed the claims.

For the foregoing reasons I am clearly of the opinion that the structure referred to in the 1st and 2nd claims of the patent in suit must be limited to one in which the spiral springs are stronger than and control the elliptical springs, and also that they must be located adjacent to the saddles and not at the ends of the frames; because that arrangement of the parts, and that only, will perform the functions and secure the results made fundamentally necessary by the specification and by the record of the case in the Patent Office. And this construction of claims 1 and 2 is not in conflict with any of the other claims in the case; there are some claims which refer to the action of the elliptics being subsequent to that of the spirals, but there are none which make reference to the relative strength of the springs, and therefore that feature must be read into claims 1 and 2 in order that they may be within the invention.

I will briefly refer to the other claims in support of this:

Claim 3 contains a special limitation relative to a certain brace.

Claim 4 refers to the brace;

Claim 5 makes special reference to the same brace;

215 Claim 6. A special construction of the side beams and brace;

Claim 7. Special construction of the saddle, in conjunction with the said brace;

Claim 8. Special construction of the brace and saddle;

Claim 9. This is one of the claims which refers to the action of one set of springs being subsequent to the other;

Claim 10. This likewise refers with more detail to the subsequent action of one set of springs relative to the other.

Claim 11. Detail of construction of elliptical springs.

Claim 12. Detail of the saddle and brace and other parts.

Claim 13. Same as claim 12.

Claim 14. The differential time of the action of the springs.

Claim 15. Detail of brace and side beams.

Claim 16. Same as 15.

Claim 17. Detail of seats for the springs.

Claim 18. Same as 17.

Claim 19. Same as 17.

Claim 20. Tightening device for the brace.

Claim 21. Detail of brace and saddle construction.

Claim 22. Same as 21.

Claim 23. Same as 21.

Claim 24. Same as 21.

Claim 25. Detail of construction of the saddle, side beams and brace.

Claim 26. Same as 25.

Claim 27. Detail of support for the elliptics.

Claim 28. Brace and side beams.

It is clear that if claims 1 and 2 be broadened to include defendants' truck, then they will be completely met by the Peckham patent 419,876; and also the structure which they will then refer to will be entirely foreign to the Brill alleged invention and
216 directly antagonistic to the statements of his specification, because it is for the difference only, existing between Peckham and Brill; in other words, the special relation of the springs and the different characteristics which made Brill's claims allowable, as appears from the file-wrapper & contents.

I have carefully read the decision of his honor Judge Shipman in the Third Avenue case, and I find nothing therein antagonistic to the above view, or anything which justifies the assumption that he accorded to claims 1 and 2 a scope as broad as complainants now contend. Quite the reverse, the defendants' structure in the Third Avenue case was practically a fac-simile of the structure of the Brill patent. In it the springs bore the relation to each other as expressed in the patent, and their co-active relation to the Third Avenue Company's truck was practically identical with those of the patent. Under this state of facts Judge Shipman rendered his decision. The considerations presented on this present motion were in nowise presented to him, nor were the defenses arising from the differences existing in the defendants' truck in the Third Avenue case and the defendants' truck in this case in any manner passed upon by him.

That Judge Shipman did not intend to grant to Brill's claims 1 and 2 a scope so broad as is now contended for them, is shown conclusively, I think, by the language of his decision. When referring to the Manier patent he says that that invention was "not designed nor adapted, nor used for the performance of the functions performed by Brill's device, nor was the way to accomplish Brill's result suggested by Manier's invention."

Here is an implication that he regarded Brill's special result, and his special way of accomplishing that result, as something peculiar and necessarily present in the Brill invention. And I am confirmed in this view by the language of the decision concern-
217 ing the Diehl and Bird patents. The judge concludes relative to them as follows:

"Neither of these patents relates to the invention of Brill which was described in his specification. The Diehl patent has no relation to the invention as described in claim 10, and neither does the Bird patent touch the invention as stated in claim 9, although each of those claims, if read literally and not in accordance with the invention as described in the specification, is liable to the charge of being too broad. They should be construed in accordance with the invention as described in the specification, for the combination with the other named elements of spiral springs and elliptical springs located between the frames as described."

Here the judge clearly intimates that the statements contained in the specification necessarily determine the meaning to be given to

the claims. He repeatedly says so, and in conclusion he does not say spiral springs and elliptical springs located between the frames: on the contrary his language is "between the frames as described." This can only mean that those springs should be located and have the characteristics and be adapted to perform the functions—or, rather, have the operation—stated in the specification.

Again, when considering the Peckham patent 419,876, his honor says:

"This construction although it contains the name 'semi-elliptical spring,' has not the conjoint action of the patented combination, nor does it perform the function of the Brill device."

This seems to me unquestionably to suggest that the judge had in mind the peculiar action of the Brill construction in which the car with light loads was to be carried upon the spiral springs in a resilient, smoothly running manner, having also the elliptical
218 springs which should act as aids to the spirals in the event of excessive loads, or other abnormal conditions; the ellipties also aiding in controlling the oscillation.

Referring now to the trucks of the defendants: I find that they are, all three of them, essentially different in construction and method of operation from that of the patent in suit. The elliptical springs, instead of being the weaker, are stronger than and control the spirals. In two forms, that is to say the "Standard" and "Extra Long," the elliptical springs are inside of the outermost spiral springs; the latter being located at or near the extremities of the frames; and all of the springs in each of the three forms of truck at all times take a bearing and help to support the car and its load, the ellipties taking the greater portion thereof. The operation referred to in the Brill patent, of having the empty or lightly loaded car resiliently supported upon the spiral springs so as to normally take the weight of the car, with weaker elliptical springs supplementing the spirals, clearly is not present in either form of these Peckham trucks.

I further find that in the Peckham construction the coaction of the two kinds of springs is totally different from that required by the Brill patent, and is substantially the same as that which was originated by Mr. Peckham long prior to Brill's alleged date of invention. This manner is shown in the Peckham patent 419,876, in which he shows spiral springs located adjacent to the pedestals and semi-elliptic springs at or near the ends of the frames: and these springs at all times engage with both frames and exert their power thereon. In the construction specially referred to in the patent 419,876 Mr. Peckham uses a relatively large semi-elliptic spring extending transversely of the truck, supporting the upper frame centrally, its ends resting upon the lower frames at the two sides of the truck; but this is obviously the same structure as that shown in his "Excelsior" truck, for example. It is
219 utterly immaterial whether there be two elliptic springs, one at each side of the frames, or a larger and more powerful semi-elliptic extending between them. It will be remembered that the patent in suit covers a transverse as well as longitudinal arrange-

ment of the elliptics (see page 1, line 66 *et seq.*). The frictional contact between the large and long leaves of the transversely arranged semi-elliptic will equal, or approximately so, the frictional action between the much smaller leaves of the full elliptics. Any one at all familiar with car construction will see the full equivalency of one form for the other so far as the issues here in question are concerned. And I will say in this connection that evidently the Brills themselves believe this to be the fact, because in their latest and best effort of four-wheel car construction they show in their advertisement in the "Street Railway Review," page 143, of the issue of October, 1900, a combination of spiral and semi-elliptic springs, instead of the combination of spiral and full elliptics, as set forth in the patent in suit.

There is no difference mechanically between the construction of the Peckham patent 419,876 and that of his "Excelsior" truck, so far as questions here in issue are concerned; and if complainant's claims 1 and 2 are to be held to include a structure in which there are spiral springs and elliptical springs located between the extended sections of an upper and lower frame, then obviously this Peckham patent fully describes such a structure; and this was the view taken by Brill at the time of his application for the patent, and by the examiner who cited the Peckham patent on that application; and in order that he might avoid this Peckham reference Mr. Brill distinctly stated, as has been heretofore pointed out, that his invention was different from Peckham's because his spiral springs were the stronger and normally supported the car and its load, and his elliptics were weaker and supplemental only to the spirals, and it
220 was this special character and special relations of the springs only which he claimed.

On the question of end oscillation also the operation of the Peckham trucks in all three forms is essentially different from that of Brill. Under Brill's construction the elliptical springs are not rigidly connected with the upper frame; therefore oscillation of his car can obtain precisely as in the old forms of car; indeed, more easily, because his spirals are not so stiff as those formerly used, and in order to check this oscillation when it has once commenced, or to retard its action, Brill employs the weak elliptics, which, as stated in the specification, act as "buffers" to break up or at least retard the oscillating motion; consequently the action of Brill's outermost springs (the elliptics) is to control or arrest oscillation after once commenced; whereas the action of Peckham's elliptic springs, which at all times are in action, is to prevent oscillation. One is a retarder, the other a preventer.

Furthermore in the Peckham construction the springs between the frames are not primarily relied upon for preventing end oscillation; on the contrary, an additional set of springs, totally different in function, location and operation from anything suggested in the Brill patent, is the element especially provided for effecting this result. These are small spirals located beneath the so-called stationary frame and tied to the upper frame by a rod or bolt; and these

springs prevent excessive rising of the ends of the truck, without which objectionable oscillation cannot take place.

The allegation contained in the moving papers that this under-spring method of controlling the oscillation, employed by Peckham, is unsuccessful, is, I am informed, untrue; and from my own observation I believe it to be an error. At least, I *I* have personally seen a large number of Peckham trucks in operation, apparently giving complete satisfaction, with this attachment upon them.

221 I further say that the statements in the moving papers, to the effect that the control of end oscillation can only be successfully accomplished by the employment of spiral in conjunction with elliptical springs, and that all spiral springs or all elliptical springs would be inoperative, is distinctly not the fact. During the last few days, in conjunction with Mr. Newbury, Mr. Fowler, and others, I have witnessed very extensive experiments and tests on this point, and have myself with these gentlemen ridden upon a car provided with a Peckham "Extra Long" truck, approximately fifty miles in making these tests. The car used in making one portion of the tests was provided with all spiral springs between the two frames; and in the other portion of the tests elliptic and spiral springs were used in the manner shown in the cut designated as Peckham's "Extra Long" in the Exhibit I. The same car was used in both portions of the tests, the spiral springs being substituted in one portion of them for elliptic springs used in the other portion; and the load and speeds were the same in both series of tests.

From my personal and careful observation of the running of the car, and also from personal observation of the operation of the apparatus used to record the oscillations, I know and unqualifiedly state that the oscillations of the car and its general motions while running, at high speeds, at medium speeds, and at slow speeds, were at least no more in extent when the spiral springs were employed throughout, than when the elliptical springs were used in conjunction with the spiral springs; indeed, I distinctly noticed that the car motions were smoother and more comfortable when all spirals were used than when the spirals and ellipties were used.

And I further say that it is not true, as stated in complainant's moving papers, that the only reason Peckham combines elliptical springs with spiral springs is that he may avail himself of

222 the alleged improvement resulting from the Brill invention. On the contrary, other things being equal, Peckham's trucks would, in my opinion, be equally as good and cheaper to construct if all the springs employed were spiral springs; but it is better to employ some elliptic springs, locating them preferably near the extremities of the frames, in order that they (the frames) may be stayed together and prevented from a swaying movement, which results in "yawing" as it is sometimes called, of the car body relative to the truck; and this I understand is the sole reason for the employment of the elliptical springs in defendant's constructions. It will be observed that spiral springs are like so many elastic posts, the bottoms and tops of which are contained in suitable caps forming seats, but they have no hold upon either of the frames; therefore, excepting

for the spring posts which pass down through them with a more or less loose bearing in the frames, there is nothing to prevent lateral movement of the car body relative to the truck; and in order to control this movement it is necessary to interpose between the two frames, both of which are movable, and between which there cannot be any rigid bracing, some device adequate to stay them together, and the elliptical springs afford precisely this means in an effective and desirable form.

From the foregoing I am clearly of the opinion that claims 1 and 2 of the patent in suit describe a structure in which spiral and elliptical springs are to be interposed between the two frames; that the spirals are to be located near the pedestals; that they are to be stronger than and adapted to control the elliptics; and that the elliptics are not to come into action until the spirals have been materially compressed, or otherwise abnormally acted upon. This limitation I think is imposed upon these claims, not only by the express language of the specification and the proceedings in
223 the Patent Office, but also because otherwise the alleged new results claimed for the invention cannot be attained; and if the structure be considered broader than this and so as to include spirals and elliptics located between the frames irrespective of these stated characteristics, then the prior Peckham patent discloses fully the resulting structure.

Claim 2 is in effect the same as claim 1, excepting that the location of the springs relative to the frames is particularly stated.

I am further of the opinion that neither of the three forms of truck made and sold by defendants embody the structure or combination of either of said claims.

I cannot concur in many statements made by Mr. Livermore, complainant's expert. I will refer to a few instances:

He states in substance that Judge Shipman awarded to claims 1 and 2 of the patent in suit a construction which broadly covered the combination of spiral and elliptical springs interposed between the frames, without limitation of any kind whatever. I find no justification for this in the judge's decision, for reasons heretofore stated by me, and I believe that could not have been the intent of Judge Shipman, because if so, so many forms of truck would be included in these claims which would not embody in the slightest the specific construction described in the patent in suit, nor be capable of performing its functions. And also, such a construction of the claims would distinctly include the prior Peckham patent, and the judge had that patent before him and could not have so intended.

Again, Mr. Livermore refers to the rhythm of the two sets of springs, which was dwelt upon at considerable length in the Third Avenue case. As I regard the matter, there is no such thing in the operation of these trucks. It is true that owing to the fric-
224 tional contact between the leaves of an elliptic spring, or semi-elliptic, that its action is more sluggish than that of coiled or, as they have been called in this case, spiral springs; but that has nothing to do with the operation of the trucks. If all spiral springs were used, then the trucks would oscillate somewhat more quickly

than if all elliptics, or semi-elliptics, were used. And if the springs be part spiral and part elliptic, then a new period of rebound will be established not quite so quick as the spirals, nor quite so slow as the elliptics. But this would be constant and neither of the springs could be said to break up the action of the other.

Again, since the upper frame and the lower frame during the oscillation of the car lie at different angles to each other, obviously the springs, irrespective of their character, that are located near the point where the two frames approach each other closest, would receive the greatest compression and be put under the greatest strain. I have searched in vain through the moving papers for any evidence that tests of any kind have been made by complainants as a foundation for the positive assertions made on these abstruse physical phenomena, and I am not prepared to say just what the effect of the unequal compression of the springs above stated might be, but the fact that they will be unequally compressed is evident. Therefore I regard this entire question of the rhythm of movement as altogether a mistaken theory which has crept into this case through insufficient investigation and knowledge, and which has no sufficient basis in fact.

Again, I do not understand how complainant's expert can find this alleged rhythm, upon which their whole case seems to rest, in the "Standard" and "Extra Long" form of Peckham's trucks, because in them there are spiral springs outside of the elliptic springs where rhythmic action is supposed to take place, the elliptics being a considerable distance inside of them; and in addition to
225 this there is the underlying spring before referred to which must inevitably very much more than counterbalance this mystical rhythmic action.

Again, Mr. Livermore alleges that Mr. Peckham's use of the additional spiral spring beneath the truck frame, which he admits was used prior to Brill's invention, has been found "ineffectual for accomplishing the desired results," and that Mr. Peckham's use of the elliptical spring can be for no other reason than that he desires to avail himself of Brill's alleged rhythmic action. Both of these statements I consider erroneous. Peckham's underlying spring is perfectly effectual and I understand is embodied in upwards of eight thousand trucks now in operation, and without complaint; and the elliptics are used by him, as I am informed, solely for the purpose of staying the two frames against lateral or "yawing" movement.

The complainant's moving papers are all based upon the view that the essence of Brill's invention is the prevention of oscillation. As matter of fact, as I have pointed out, that is a secondary consideration. The specification reads, line 11:

"The main object of my invention is to enable a truck of comparatively short wheel base to be used and to support a car body upon it, the ends of which overhang the ends of the truck for some distance."

This clearly refers to the idea of supporting the car body on relatively weak spiral springs which shall alone sustain it when carry-

ing a light load, and providing in addition the supplemental and still less powerful elliptic springs which shall be called into action only for heavy loads; and this is stated to be the main object of the invention. The specification then proceeds, at line 16, stating a secondary or collateral result, as follows:

"My invention is also intended to overcome in a measure
226 the end vibration or oscillation of the car body and movable portions of the truck to which the car is secured."

I again call attention to the fact that Brill's method of supporting the car body, which is the main object of his invention, can only be attained when spiral springs having greater stiffness than the elliptical springs are employed, and they must be located adjacent to the pedestals.

Notwithstanding the fact that Mr. Livermore says that Mr. Peckham's underlying spring is a failure for prevention of oscillation, yet Mr. Brill in his affidavit states that in his opinion the trucks of all three of defendant's forms "are efficient in preventing or lessening oscillation," and he alleges this is because of the presence of spiral and elliptical springs. He makes no mention in the connection of Peckham's underlying springs, the special function of which is to prevent oscillation, and which was present, as I am informed and believe, in all forms of Peckham trucks to which he alludes.

PHILLIPS ABBOTT.

Subscribed and sworn to before me this 25th day of October, 1900.

W. O. SHAUGHNESSY,

[SEAL.] *Notary Public, New York Co.*

227 United States Circuit Court, Southern District of New York.

JOHN A. BRILL and ANO.
vs.
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY ET AL.

Decision of Motion for Preliminary Injunction.

LACOMBE, *Circuit Judge:*

The only question presented is whether defendant's structure infringes. That involves the construction of the claims declared on and for the purpose of this motion the construction already adopted by this court on final hearing in the Third Avenue case should be followed for there is no prior patent, no prior use proved here which was not before Judge Shipman. It is true that in that case the defendant's device was a much closer copy than the one now under consideration, containing, as it did, the feature that the spiral springs came first into play and the further feature of depending caps in which the leaves of the elliptic springs play vertically, but the court most carefully indicates that the leading feature of the invention lies outside of these details; that the "gist of the invention consists in combining with the frame of the truck and the spiral springs other springs, viz., elliptical springs between the car body and the

extension of the independent frame;" the object being to break the rhythm of the springs, and thus do away with the galloping or rocking motion. The defendant here insists that there
228 is no rhythm broken, indeed, that there is no rhythm to break, and that the combination of the quotation does not do away with the galloping motion. On these points, however, the court should follow the earlier decision. There are additional rods and also spirals below the frame, which apparently in defendant's structure do their share in eliminating galloping; but the combination which Judge Shipman described as the gist of the invention is undoubtedly in defendant's structure, and under well-settled rules of practice complainant is entitled to a restraining order until final hearing.

Endorsed: Circuit court of the United States for the southern district of New York—John A. Brill *et al. vs.* The Peckham Motor Truck Co.—Opinion, Lacombe, C. J.—Filed Dec. 3, 1900.

229 *Injunction Order.*

United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, *vs.* PECKHAM MOTOR TRUCK & WHEEL CO., Edgar Peckham, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants.	In Equity.	No. 7630.

This cause having come on for hearing upon a motion on behalf of the complainants, for a preliminary injunction to restrain the respondents from infringing upon the rights of the complainants under claims 1 and 2 of letters patent of the United States to G. M. Brill, No. 476,218, dated July 5, 1892, in suit, and the bill of complaint; a copy of the opinion of Judge N. Shipman, in the case of Brill *v.* Third Avenue Railroad Co.; a copy of Brill patent No. 478,218, in suit; notice of motion; and upon the affidavits in support thereof; viz: affidavit of John A. Brill, verified October 13, 1900; containing Exhibit A. Photograph copy of page from Street Railway Journal, October, 1889; Exhibit B, blue print, sketch from back of "Complainant's Exhibit," Brill Letter, No. 2; Exhibit C, blue print from Brill letter; Exhibit D, blue print, Complainant's Exhibit Brill Tracing No. 1, Brill *v.* Third Ave. R. R. Co.; Exhibit E, copy Brill patent 478,218; Exhibit F, copy Brill assignment, of December 3, 1894; Exhibit G, Brill assignment, July 6, 1897;
230 Exhibit H, copy disclaimer of October 12, 1900; Exhibit — copy of decree of July 26, 1900, Brill *vs.* Third Ave. R. R. Co.; copy final decree, Brill *v.* Third Avenue R. R. Co.; Exhibit I, photograph of page 135 of Street Railway Journal; affidavit of Charles G. Hensley, verified October 15, 1900, and Exhibit X, photograph

of Peckham works; affidavit of C. W. Benjamin, verified October 13, 1900, and two photolithographs of defendant's "Excelsior," "Standard" and "Extra Long" trucks; affidavit of John N. Ackerman, verified October 12, 1900; affidavit of G. M. Brill, verified October 13, 1900; affidavit of Joseph P. Livermore, verified October 11, 1900; affidavit of James Fagan, verified October 13, 1900; affidavit of Vincent Anderson, verified October 13, 1900; affidavit of S. M. Curwen, verified October 13, 1900; *affidavit of S. M. Curwen, verified October 13, 1900;* affidavit of Harvey M. Littell, verified October 12, 1900; affidavit of service of C. G. Hensley, verified October 15, 1900; Defendant's Exhibit, Model of Truck Frame, "Standard Truck;" affidavit of C. G. Hensley, verified October 22, 1900, and notice of presenting same at hearing; affidavit of service of same; and copies of patents attached thereto, viz: Peckham, numbers 419,876; 419,877; 419,878; 424,723; 440,189; 458,749; 464,253; 467,896; 471,061; 555,526; 555,530; 563,685; 599,474; and upon affidavits in opposition thereto, viz: affidavit of E. Peckham, verified October 25, 1900; James J. McGowan, verified October 25, 1900, with cut of Excelsior No. 7–B from Street Railway Journal attached, and Extra Long, Metropolitan special; affidavit of Jacob R. Beetem, verified October 26, 1900; Henry F. Newbury, verified October 26, 1900; and Phillips Abbott, verified October 25, 1900; and was argued by Francis Rawle, Esq., and Frederick P. Fish, Esq., on behalf of complainants, and by Henry P. Wells, Esq., on behalf of respondents, and thereupon, upon consideration thereof, and upon motion

231 of Joseph L. Levy, Esq., complainants' solicitor, it is

Ordered, adjudged and decreed, that an injunction be issued out of and under the seal of this court, enjoining and restraining the defendant The Peckham Motor Truck & Wheel Co., and its officers, agents, attorneys and workmen; and Edgar Peckham individually and as the president and director of said Peckham Motor Truck & Wheel Co., and Theodore Spore individually, and as the secretary and a director and officer of said Peckham Motor Truck & Wheel Co.; and W. G. Price, and Erwin G. Long, individually, and as directors and officers of said Peckham Motor Truck & Wheel Co.; and the said Motor Truck & Wheel Co.; and Edgar Peckham, W. G. Price, Erwin G. Long, and Theodore Spore, individually or as officers or directors, or as agents for the said Peckham Motor Truck & Wheel Co., and the officers, agents, attorneys, servants and workmen of the said Peckham Motor Truck & Wheel Co., while directly or indirectly acting for or in consort or in conjunction with or for the Peckham Truck Co. so called, or the Peckham Manufacturing Co. so called, or any other person, firm or corporation, from directly or indirectly making or causing to be made, selling or causing to be sold, using or causing to be used, or advertising for sale, or making or shipping or selling in parts to be subsequently assembled for use or sale, any street or other car trucks constructed in accordance with or like those, shown in Exhibit I, attached to the affidavit of John A. Brill, filed in this cause, and therein designated as "Excelsior," "Standard," "Extra Long," respectively, or any substantial embodiment thereof, and any other street or car trucks containing or

embodying, or in any way embodying, counterfeiting, or imitating any of the inventions described in the said letters patent and claimed as new in claims 1 and 2 thereof, or any other substantial
232 embodiment or combination of elements recited in said claims, and from infringing upon the rights of the complainants under claims 1 and 2 of the said letters patent, by the manufacture, sale or use of street car trucks involving or embodying the subject-matter of claims 1 and 2 aforesaid, or in any other manner whatsoever, and that the said injunction do stand until the final hearing of this cause.

December 14, 1900.

E. HENRY LACOMBE.
U. S. Circuit Judge.

Endorsed: U. S. circuit court, Filed December 14, 1900, John A. Shields, clerk.

233 *Order Suspending Temporary Injunction.*

United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants,
vs.
PECKHAM MOTOR TRUCK & WHEEL CO., EDGAR PECKHAM, W. G. Price, Erwin G. Long, John H. Bickford, and Theodore Spore, Defendants.

Upon the motion of defendants, based upon the papers upon which order for temporary injunction was issued, the operation of said injunction is suspended until the hearing and determination of an appeal from this order to be taken by said defendants within five days to the United States circuit court of appeals for the second circuit, with leave, however, to the complainants to move this court, upon reasonable notice to the defendants for the vacation of this suspending order should the prosecution of said appeal on the part of the defendants be unreasonably delayed.

Dec. 14, 1900.

E. H. LACOMBE, *U. S. C. J.*

Endorsed: Circuit court of the United States for the southern district of New York. John A. Brill and The J. G. Brill Company *vs.* Peckham Motor Truck & Wheel Co. *et al.*—Opinion, Lacombe, C. J.—U. S. circuit court, Filed Dec. 14, 1900, John A. Shields, clerk.

234 *Judge Shipman's Decision in Third Avenue Case.*

Circuit Court of the United States for the Southern District of New York.

JOHN A. BRILL
vs.
THIRD AVENUE RAILROAD COMPANY.

This bill in equity is based upon the infringement of claims 1, 2, 9, 10, 11, 12, 14, 17 and 27 of letters patent No. 478,218, applied for June 26, 1891, and issued on July 5, 1892, to George Martin Brill for an improvement in car trucks. Although the patentee conceived the idea of the invention of claims 1 and 2 in May, 1889, and made rough sketches of it, he laid it aside and did not take it up again until November, 1890. He made drawings in December and completed the trucks containing the whole invention in January, 1891. The date of the invention may be considered to have been December 8, 1889. These claims are as follows:

"1. In a motor truck, the combination, with a stationary frame supported upon the running gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable
235 and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame, substantially as described.

"2. In a truck, a spring-supporting frame supported upon the running gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, substantially as described.

"9. In a truck, the combination of two frames, one stationary and supported upon the running gear, the other movable, and a plurality of springs located between the stationary and movable frames, some of said series being adapted to be compressed by the downward movement of said movable frame subsequent to the compression of other of the series, substantially as described.

"10. In a truck, the combination of two frames, one stationary and supported upon the running gear of the truck, the other adapted to be moved toward said stationary frame, springs located between the ends of both frames, and springs otherwise disposed between the two frames, the end springs being adapted to be compressed subsequent to the compression of the other springs, substantially as described.

"11. In a truck, a stationary spring-supporting frame having at its ends elliptical springs rigidly secured thereto, in combination with a movable frame supported by springs other than said elliptical springs, said movable frame being provided with devices for engaging said elliptical springs, the elliptical springs being adapted

to be brought into action subsequent to the springs supporting the movable frame, substantially as described.

236 "12. In a truck, a spring-supporting stationary frame mounted on the running gear of said truck, said frame being composed of a plurality of bars contiguously disposed, a saddle secured to the outer sections of the said bars, an elliptical spring, the lower section of which rests upon said saddle, and a second saddle disposed over the first and the spring and secured to the first saddle, a movable frame, spring-supported upon the stationary frame and having devices for guiding the upper section of the elliptical spring, substantially as described.

"14. A truck having running gear and a frame, and spiral springs for supporting the car body, supplemented by elliptical springs adapted to co-act therewith, the spirals being adapted to be compressed prior to the ellipticals, substantially as described.

"17. The upper chord having the depending cap 45, with downwardly extending legs 46, and elliptical springs held on the side beams, adapted to move in said cap, substantially as described.

"27. In a truck, a stationary spring-supporting frame mounted on the running gear of said truck, having outwardly extending sections and elliptical springs secured to the stationary frame, and a movable frame, spring-supported upon the said stationary frame, having a device for guiding the upper portion of the elliptical springs, substantially as described."

One hundred and eighty-one infringing trucks were purchased by the defendant from the Bemis Car Box Company of Springfield, Massachusetts, which it is admitted "is defending the present suit for the Third Avenue Railroad Company."

237 SHIPMAN, *C. J.*:

After electricity was substituted upon city railroads as a motive power to move cars formerly drawn by horses, the railroad corporations were subjected to great expense and the passengers to severe inconvenience in consequence of the oscillation of the cars from end to end, or "galloping" motion as it was called. The horse cars were sixteen feet long and had a wheel base or distance between the two pairs of wheels of six to seven and one-half feet. The new electric cars were from eighteen to twenty-two feet long, but, in consequence of the short radii of curves in city streets where cars turn from street to street, it was necessary to keep the wheel base about as short as before to enable the car to pass around the curves and, therefore, the car body was longer than the truck and overhung it. The result was that these overhanging and unsupported ends oscillated, pounded the rails, strained the trucks and caused discomfort, and, on heavily laden open cars, danger to the passengers. The patentee says in his specification, "The main object of my invention is to enable a truck of comparatively short wheel base to be used, and to support a car body upon it, the ends of which overhang the truck for some distance. My invention is also intended to overcome in a measure the end vibration or oscilla-

tion of the car body and movable portion of the truck to which the car is secured."

In the patented structure, a pair of rigid longitudinal side beams, which derive their support from the axle boxes, extend lengthwise of the truck beyond the wheels at each end and are called the "independent frame." At each side of each beam a spiral spring is interposed between the beam and the spring plates upon which the car body rests and to which it is rigidly secured. These spring plates are secured to a rectangular frame called the "movable portion" of the truck. At each side of the car there are two spring
238 plates and four spiral springs, two between each plate and corresponding longitudinal beam or saddle, thus making a set of eight springs, called axle-box springs. These springs, supported as they are upon a space equal to the length of the wheel base, cannot firmly support a car body of the length of the ordinary trolley car, and a multiplication of spiral springs between the wheels and the end of the car was also inadequate. The gist of the invention consisted in combining with the frames of the truck and the spiral springs, another class of springs, viz., elliptical springs, between the car body and the extensions of the independent frame. The elliptical springs are slower in their action than the spiral springs and neutralize the longitudinal oscillation of the car body. Mr. Akarman, a practical trolley railroad superintendent, stated the result and the reason of it, as follows:

"From a practical observation my opinion is that the combination of an elliptical and spiral spring, as applied in trucks of this type, breaks the rhythm of motion or interrupts it. In trucks with all spiral springs, or I should think, if it were possible to construct a truck having all elliptic springs, the rhythm of motion is perfect, the springs acting in unison. In the truck, as previously described, having the combination of elliptic and spiral springs, the rhythm is broken and the result is that the galloping or rocking motion was done away with."

This leading feature of the invention is described in claims 1 and 2, which do not contain the limitations of the invention described in the next paragraph. A second and minor feature of the invention described in claims 9, 10, 11 and 14, is such an arrangement of the elliptical springs with the car body that they "will not come into play until after the axle-box springs have begun to compress, and the action of the spiral springs in lifting the car body is continued after the elliptical springs have ceased to act." The
239 elliptical springs are not depressed until the car body or one end of it has become depressed by the weight of the passengers or some other cause, when this slower motion interposes and checks the continuation or increase of oscillation.

A third and more subordinate feature of the invention is described in claims 12, 17 and 27, and consists in the construction by which the elliptical springs are engaged with the independent frame of the truck and car body. One feature of this construction is that, as described by the complainant's expert, the "upper member of the spring is not positively connected with the movable portion of the

truck, but the latter is provided with a 'cap' or bearing piece secured to the under side of the upper chord of the movable portion, said cap having downward extending projections or legs at each side of the upper member of the elliptical spring, which confine the spring in proper position under the cap while permitting of independent vertical movement of the bearing plate and spring, so that the former may, if necessary, rise clear of the spring."

The invention, as a whole, attracted the immediate attention of railway superintendents, was found to accomplish its object and to be almost a complete remedy, and trucks having spiral springs next to the axle boxes and elliptic springs on the extensions of the truck frame have been universally adopted.

Upon the question of the novelty of the invention described in claims 1, 2, 11, 12 and 14, the defendant's expert puts great stress upon letters patent No. 409,993, dated August 27, 1889, to Benjamin F. Manier. One object of Manier was to prevent oscillation and to accomplish it he employed an extended spring base and mounted the body springs forward of the axles. He said that oscillation was noticeable in cars mounted on trucks wherein the body springs are on both sides of the axles and near the centre of the truck, and that the mounting of the body springs forward of the axles he considered a special feature of his invention. The springs or the kind of
240 springs which he was to use are no part of his invention. He says, "Preferably I employ spiral springs G, as shown in figure 1, for supporting caps I, but, if desired, the elliptic springs *g* could be employed, as shown in figure 3, or other forms of springs may be used as found convenient and desirable, the particular form of spring not forming part of present invention." Manier's invention was entirely apart from that of Brill, and had no conception of its character. The only ground upon which the expert can place his theory is that in Fig. 3 the two different forms of springs, spiral and elliptic, are shown, and upon this drawing the entire superstructure of anticipation is built. Manier's invention was not designed, nor adapted, nor used for the performance of the function performed by Brill's device, nor was the way to accomplish Brill's result suggested by Manier's invention (Topliff *v.* Topliff, 145 U. S., 156).

In regard to claims 9, 10, 11 and 14, the defendant's expert did not find in the prior art a combination which included the feature of the compression of the spiral springs prior to the action of the elliptical springs or a provision for bringing those springs into action subsequent to the springs supporting the movable frames, but, as claim 9 refers to a plurality of springs, he finds that claim to have been anticipated by the patent to Horace G. Bird, No. 436,031, of September 9, 1890, and also that the terms of claim 10 were anticipated by the patent to John Diehl, No. 396,272, of January 15, 1889.

The Bird structure had one set of springs between the axle boxes and the intermediate frame, and another set between this frame and the car body, all of these springs being spiral, and as the different sets were of different strength, the patentee thought that by the inequal-

ity of their vibrations, the oscillation of the car body would tend to neutralize that of the truck, and, as a result, excessive lengthwise rocking motion would be obviated. No substantial difference in the time of compression was intended, but there would be a difference in the amount of compression, which would be greater in the lighter springs.

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The Diehl patent is for springs for a vehicle, and consists of a bar, a single semi-elliptic lengthwise spring secured to the central portion of the bar, and two spiral springs of different lengths arranged to depend from each end of the bar, whereby one of the spiral springs is always in contact with the semi-elliptic spring. Supplemental spiral springs are adapted to be brought into action after the main spiral springs have been excessively compressed. Neither of these patents relate to the invention of Brill which was described in his specification. The Diehl patent has no relation to the invention as described in claim 10, and neither does the Bird patent touch the invention as stated in claim 9, although each of those claims if read literally and not in accordance with the invention as described in the specification, is liable to the charge of being too broad. They should be construed in accordance with the invention, as described in the specification, for the combination with the other named elements of spiral springs and elliptical springs located between the frames as described. The defendant's expert referred also to the Brill patent No. 357,811, and the Richard Vose patents for rubber centre spiral springs or metallic spiral springs, Nos. 199,945, 347,281 and 350,174. The Brill patent is unimportant in this connection, and the Vose patents relate simply to spiral springs which act successively under compression.

In regard to claims 17 and 27, the defendant's expert was unable to point to anything in the prior art which contained the particular construction or the elements of those claims.

The expert referred in his direct examination only to the Manier, Bird, Diehl, Brill and Vose patents "as showing most clearly constructions which I (he) considered as the best anticipations of the alleged invention of the patent in suit and particularly to the subject-matter of claims 1, 2, 9, 10, 11, 12, 14, 17 and 27."

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His attention was afterwards called by the defendant to nineteen other patents and in regard to which he testified. Four of them were issued after the date of the Brill application. The remaining fifteen have no bearing upon the question of anticipation and were commented upon, probably to have an effect upon the question of invention. I do not think that any of them calls for remark, except the Edgar Peckham patent, No. 419,876, dated January 21, 1890. In this car truck, between the end portions of the lower beams and the car sill, suitable springs were interposed, either spiral springs or a semi-elliptic spring which was disposed transverse to the car body and rests with each end secured to the top of the lower beam. The upper beams are supported on spiral springs on the axle boxes. This construction, although it contains the name semi-elliptic spring, has not the conjoint action of the patented combination, nor does it perform the function of the Brill device.

The contest in regard to infringement related to claims 9, 10, 11 and 14, the controversy being whether the elliptical springs in the defendant's trucks were so arranged with reference to the car body that the weight came upon them as soon as it came upon the spiral so that there was no compression of the spirals before the weight began to come upon the elliptics. The defendant offers testimony in support of this theory, but in view of the strength of the affirmative testimony offered by the complainant upon the issue of infringement it was inadequate. A very intelligent carpenter who helped to ship the trucks in question from Springfield to New York testified that both classes of springs began to be compressed at the same time, and was undoubtedly honest in his opinion, but the strength of the testimony is that when the trucks first came to New York and the car bodies were put in place the spiral springs carried the weight of the body and the elliptics were a reinforcement to carry the passenger weight. It is noticeable that the managers of the Bemis Company and those officials who made the plans and constructed the trucks, and could have described and shown the plan of construction upon which their trucks were made, did not testify on this point.

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The only remaining question is that of patentable novelty. It has already appeared that the gist of the invention is described in claims 1 and 2. The necessity for a remedy against the pounding of the car, the importance of the result, the adoption of the invention by experienced railway superintendents, the number of previous attempts at a remedy and the barrenness of their results go far to show that the work of an inventive mind was required and was active in the invention. The testimony of the defendant's expert itself, as he goes through the history of the art and thereby points out what the patentee's combination did, as compared with previous efforts to do something, shows that the patented improvement was patentable. The result of the minor invention of claims 9, 10, 11 and 14 was important, though upon first inspection its marked importance does not appear, but it perfected the general invention of the first two claims. The combination shown in claims 12 and 27 was patentable. The simple combination in claim 17 of the upper chord with its depending cap and downwardly extended legs and elliptical springs does not appear to me to have been patentable.

Let there be a decree, with costs for an injunction against the infringement of claims 1, 2, 9, 10, 11, 12, 14 and 27, and for an accounting if it is asked for.

(Endorsed:) U. S. circuit court for the southern district of New York.—John A. Brill *v.* Third Avenue Railroad Company.—Opinion.—Shipman, C. J.—U. S. circuit court.—Filed Jul- 9, 1900.—John A. Shields, clerk.

245 United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL COMPANY *against* THE PECKHAM MOTOR TRUCK & WHEEL Company, Edgar Peckham, W. G. Price, Erwin G. Long, and Theodore Spore.	In Equity. No. 7630.

Petition of Appeal.

To the honorable the judges of the circuit court of the United States of America for the second circuit:

The petition of The Peckham Motor Truck & Wheel Company, Edgar Peckham, W. G. Price, Erwin G. Long and Theodore Spore, the defendants above named, respectfully shows:

That on or about the 15th day of October, 1900, the complainants above named filed their bill of complaint in this suit against your petitioners alleging the issue of letters patent of the United States of America for alleged improvements in car truck, to George Martin Brill, of Philadelphia, Pennsylvania, which said patent is numbered 478,218 and dated July 5, 1892; alleging that said letters patent had been duly assigned to John A. Brill, one of the complainants above named, and that the said J. G. Brill Company, one of the complainants above named, was the exclusive licensee thereunder for the entire United States; alleging that your petitioners have unlawfully infringed upon said letters patent; and praying,
246 among other things, for a preliminary and also a permanent injunction, enjoining your petitioners, their officers, agents, attorneys, servants and workmen from making, using and selling car trucks described and claimed in said letters patent.

That on or about the 15th day of October, 1900, said complainants filed with the clerk of this court a notice of motion to be made on the 19th day of October, 1900, for a preliminary injunction, said notice being accompanied by certain affidavits and exhibits.

That on said 19th day of October, 1900, your petitioners appeared at said hearing at said court by their solicitor and counsel and obtained an adjournment of the hearing of said motion until the 26th day of October, 1900.

That on said 26th day of October, 1900, your petitioners again appeared in said court by their solicitor and counsel and filed certain affidavits and exhibits in opposition to said motion for said preliminary injunction, and said motion for said preliminary injunction was then argued before the Honorable E. Henry Lacombe, one of the judges of the said court, by counsel for the respective parties to this suit.

That on the 3d day of December, 1900, his honor, Judge E. Henry Lacombe, rendered and filed his opinion to the effect that said preliminary injunction should be granted, and that on or about the 14th day of December, 1900, an order and decree was entered herein

directing a preliminary injunction to issue against your petitioners, their officers, clerks, agents, attorneys, servants and workmen, enjoining that they desist from making, using or selling any articles described in said letters patent and cited in the first and second claims thereof. At the same time, to wit, the 14th day of December, 1900, upon motion of the defendants an order was made by his honor, Judge E. Henry Lacombe, suspending the operation of said injunction order until the hearing and determination of an
247 appeal from said order to the United States circuit court of appeals for the second circuit, provided said appeal be taken by the defendants within five days.

Wherefore your petitioners, feeling themselves aggrieved by the said opinion and the said interlocutory order or decree entered herein on the 14th day of December, 1900, granting said preliminary injunction against your petitioners, do hereby appeal therefrom to the United States circuit court of appeals for the second circuit and pray that their said appeal may be allowed and a citation directed to the above-named complainants, commanding them to appear before the United States circuit court of appeals for the second circuit, to take and receive what may pertain to justice to be taken in the premises, and that a transcript of said bill of complaint and said notice of motion for preliminary injunction, with all affidavits and exhibits accompanying it, and of all affidavits and exhibits filed by your petitioners in opposition to said motion for injunction, and of said opinion, and of said order and decree for preliminary injunction, and of all pleadings, papers, affidavits and exhibits in any way relating to either of the same, all duly authenticated, may be transmitted to the said circuit court of appeals for the second circuit for a review therein.

(Signed) HENRY P. WELLS,
Solicitor for Defendants.

And now on this 15th day of December, 1900, on motion of Henry P. Wells, Esq., solicitor for defendants, it is ordered that the above appeal be allowed as prayed for.

Dated December, 1900.

(Signed) E. H. LACOMBE,
U. S. Circuit Judge.

Endorsed: Circuit court of the United States for the southern district of New York—John A. Brill and The J. G. Brill Company vs. Peckham Motor Truck & Wheel Co. *et al.*—Petition on appeal. Motion to file certified check in lieu of bond on appeal.—U. S. circuit court, filed Dec. 17, 1900, John A. Shields, clerk.

248 United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL COMPANY
against
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, EDGAR PECKHAM, W. G. PRICE, ERWIN G. LONG, and THEODORE SPORE.
} In Equity. No. 7630.

Motion to File Certified Check in Lieu of Bond on Appeal.

Now come the defendants above named and move that a certified check for the sum of two hundred and fifty ($250.00) dollars be deposited with the clerk of this court in lieu of a bond on appeal.

Dated December 15th, 1900.

(Signed) HENRY P. WELLS,
Solicitor for Defendants.

249 *Order to File Certified Check.*

United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL COMPANY
against
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY, EDGAR PECKHAM, W. G. PRICE, ERWIN G. LONG, and THEODORE SPORE.
} In Equity. No. 7630.

A motion having been made that the defendants in the above-entitled cause be allowed to deposit a certified check for the sum of two hundred and fifty ($250.00) dollars with the clerk of this court in lieu of a bond on appeal, it is

Ordered that such deposit when made shall take the place of a bond on appeal and the clerk is directed to receive said certified check for the sum of two hundred and fifty ($250.00) dollars in place of such bond.

(Signed) E. H. LACOMBE,
U. S. Circuit Judge.

Certified check for the sum of two hundred and fifty ($250.00) dollars in lieu of bond on appeal received by me this 15th day of December, 1900.

JOHN A. SHIELDS, *Clerk.*

Endorsed: Circuit court of the United States for the southern district of New York—John A. Brill and The J. G. Brill Company vs. Peckham Motor Truck & Wheel Co. *et. al.*—Petition on appeal, Order to file certified check in lieu of bond on appeal.—U. S circuit court, filed Dec. 17, 1900. John A. Shields, clerk.

250 United States Circuit Court, Southern District of New York.

JOHN A. BRILL and THE J. G. BRILL COMPANY,
against
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY, EDGAR PECKHAM, W. G. PRICE, ERWIN G. LONG, and THEODORE SPORE.

In Equity. No. 7630.

Assignment of Errors.

And now come the defendants above named by their solicitor, and present, with the accompanying petition for appeal from the order granting a preliminary injunction in this cause, the following assignments of error.

First. The court erred in not holding that the first and second claims (being the only claims of which infringement is charged) of the patent in suit, to wit, letters patent No. 478,218, dated July 5th, 1892, to George Martin Brill for "car truck," were valid, if valid at all, only when limited to the specific construction described in the specification and shown in the drawings of said patent.

Second. That the court erred in holding that defendants' car trucks embodied the elements of said first and second claims of the said patent in suit.

Third. That the court erred in not holding that defendants' constructions did not infringe the first and second claims of said patent in suit.

251 Fourth. The court erred in not holding that defendants' car trucks differed in construction from and operated upon a different principle from the car trucks shown and described in the patent in suit.

Fifth. The court erred in not denying complainants' motion for preliminary injunction.

Sixth. The court erred in holding that in any or all the circumstances of the case a preliminary injunction should issue.

Wherefore, said respondents pray that the said order of the said United States circuit court for the southern district of New York be reversed, and the said circuit court be directed, by the mandate of the United States circuit court of appeals for the second circuit, to enter an order denying the motion for preliminary injunction, and for such other and further relief as shall seem just in the premises.

New York, December 17th, 1900.

(Signed) HENRY P. WELLS,
Defendants' Solicitor.

Endorsed: Circuit court of the United States for the southern district of New York—John A. Brill and The J. G. Brill Company, *vs.* Peckham Motor Truck & Wheel Co. *et al.*—Assignment of errors, U. S. circuit court, filed December 17, 1900, John A. Shields, clerk.

252 *Citation.*

By the Honorable E. Henry Lacombe, one of the judges of the circuit court of the United States for the southern district of New York, in the second circuit.

To John A. Brill and the J. G. Brill Company, Greeting:

You are hereby cited and admonished to be and appear before a United States circuit court of appeals for the second circuit, to be holden at the borough of Manhattan in the city of New York, in the district and circuit above named, on the 15th day of January, 1901, pursuant to a petition on appeal filed in the clerk's office of the circuit court of the United States for the southern district of New York, wherein The Peckham Motor Truck & Wheel Company, Edgar Peckham, W. G. Price, Erwin G. Long, and Theodore Spore are defendants, and you are complainants, to show cause, if any there be, why the injunction order in said petition on appeal mentioned should not be corrected and speedy justice should not be done in that behalf.

Given under my hand at the borough of Manhattan, in the city of New York, in the district and circuit above named, this 17th day of December, in the year of our Lord, one thousand nine hundred, and of the Independence of these United States the one hundred and twenty-fifth.

(Signed) E. H. LACOMBE.
Judge of the Circuit Court of the United States for the Southern District of New York, in the Second Circuit.

Endorsed: Circuit court of the United States for the southern district of New York—John A. Brill and The J. G. Brill Company vs. Peckham Motor Truck & Wheel Co., *et al.*—Citation. U. S. circuit court, filed December 17, 1900, John A. Shields, clerk.

253 UNITED STATES OF AMERICA, } ss:
Southern District of New York, }

I, John A. Shields, clerk of the circuit court of the United States of America, for the southern district of New York, in the second circuit, do hereby certify that the foregoing pages, numbered from 1 to 252 inclusive, contain a true and complete transcript of the record and proceedings had in said court, in the cause entitled John A. Brill and The J. G. Brill Company, complainants, against The Peckham Motor Truck and Wheel Company, *et al.*, defendants, as the same remain of record and on file in my office.

In testimony whereof, I have caused the seal of the said court to be hereunto affixed, at the city of New York, in the southern district of New York, in the second circuit, this 14 day of January, in the year of our Lord one thousand nine hundred and of the Independence of the said United States the one hundred and twenty-fifth.

JOHN A. SHIELDS, *Clerk.* [SEAL.]

254 United States Circuit Court of Appeals for the Second Circuit, October Term, 1900.

Submitted March 13, 1901; decided April 3, 1901.

JOHN A. BRILL and THE J. G. BRILL Company, Complainants, Appellees,

vs.

THE PECKHAM MOTOR TRUCK AND Wheel Company *et al.*, Defendants, Appellants.

No. 139. Appeal from the Circuit Court of the United States for the Southern District of New York. Before Judges Wallace, Wheeler, and Thomas.

WALLACE, *Circuit Judge:*

If the first and second claims of the patent in suit (letters patent to Geo. M. Brill, No. 478,218, dated July 1st, 1892), require a construction limiting the combination therein specified to one in which the spiral springs and elliptical springs are so arranged that the latter are not brought into action until after the former have begun to compress, the car trucks of the defendant do not infringe the claims. In the car trucks of the defendant both sets of springs are brought into action and begin to compress simultaneously when the weight upon them is greater than the normal weight of the car. In granting the order for a preliminary injunction, which has been appealed from, the court below adopted the construction which had apparently been placed upon these claims in the suit of Brill *vs.* Third Avenue Railroad Company. In that action the infringement of these claims, as well as that of several other claims in the patent, including numbers 9, 10, 11 and 14, was alleged by
255 the complainant, and the question of their validity as well as their infringement was strenuously contested; and upon final hearing the court adjudicated the validity of all the claims and held them to be infringed by the defendant. Inasmuch, however, as the infringing car trucks embodied the combinations specified in all the claims, it was not necessary in that case for the court to accurately define claims 1 and 2 in order to determine what if any limitations not expressed therein were to be read into them by implication.

The two claims are as follows:

"1. In a motor truck, the combination, with a stationary frame supported upon the running gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame, substantially as described."

"2. In a truck, a spring-supporting frame supported upon the running gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, substantially as described."

In the opinion in Brill vs. Third Avenue Railroad Co. the court used this language: "The gist of the invention consisted in combining, with the frame of the truck and the spiral springs, another class of springs, viz., elliptical springs, between the car body and the extensions of the independent frame. The elliptical springs are slower in their action than the spiral springs, and neutralize the longitudinal oscillation of the car." The record in that suit is a part of the record now before the court, and upon this record, supplemented by the depositions and documents introduced upon the motion for the preliminary injunction,

256 the appellants insist that a narrower interpretation should be placed upon the claims than seems to have been given them in the former suit and accepted by the court below. They urge that the prior state of the art does not permit a construction of the claims which will include every combination of spiral and elliptical springs with the other elements of either claim, and that the claims must be limited by the language of the description in the patent to a combination in which the springs have a definite mode of operation.

The patent, so far as concerns the employment of the springs, is for an invention which is intended to diminish the end vibration or oscillation of the car body, known as "galloping," when moving over the track, and which in the long cars having a comparatively short wheel base is especially obnoxious. Its distinguishing feature is the employment of two kinds of springs, spirals for supporting the car body above the axle boxes, and elliptic for supporting it at the ends. Brill was not a pioneer in the use of springs for this purpose. Among the patents granted before the filing of the application for the patent in suit, the two in the prior art showing the nearest approximation to the invention of Brill are No. 409,993, granted August 27, 1889, to Benjamin F. Manier, and No. 419,876, granted January 21, 1890, to Edgar Peckham. Manier's patent describes the employment of springs for the purpose of obviating the rocking or oscillating movement of the car body. The specification contains this statement: "Preferably I employ spiral springs G, as shown in figure 1, for supporting caps I; but, if desired the elliptical springs *g* could be employed, as shown in figure 3; or other forms of springs may be used, as found convenient and desirable, the particular form of spring not forming a part of the present invention." This patent shows every element of the first claim of the patent in suit broadly considered, except the conjoint use of spiral and elliptical springs, one of the drawings showing spiral springs only, and the other showing elliptical springs only. The patent does not show the combination of the second claim because the saddles are absent.

257 The invention in the prior patent to Peckham "consists in a novel construction of a car truck designed to afford spring supports under the end portions of the car body as well as the axles, and thus support said body nearly throughout its length and also obviate in a great measure the vertical oscillation of the same when moving over an undulating track." The specification describes the

spiral axle-box springs of the patent in suit, and "suitable springs" for supporting the car body at the ends "which may be either of the spiral species as shown at *t t*, or of the so-called semi-elliptical form as shown at t^1 in figures 4 and 5 of the drawings, which latter form of spring is disposed cross-wise of the truck and rests with its ends in suitable shoes." It also shows saddles mounted like those of Brill upon the axle boxes. Of this patent the expert for the complainant makes this statement: "While the construction shown in this Peckham patent clearly does not embody the combination recited in the several claims of the Brill patent in suit, and while the Peckham patent contains no indication that any advantage would be attained by the use of a semi-elliptic spring across each end of the car in conjunction with spiral springs supporting the car body over the journal boxes, I am inclined to think that the construction embodying the semi-elliptic springs would measurably attain the result that is attained by the conjoint use of the spiral and elliptical springs as embodied in the Brill truck, and that a car having the truck structure shown in figures 4 and 5 of this Peckham patent would be less liable to excessive longitudinal oscillation than any of the trucks of the prior art heretofore considered."

It thus appears that it was old in the prior art to employ for the purpose of obviating the oscillation of the car body all the parts enumerated in the first and second claims except the two kinds of springs in the same car truck, and that the only novelty in the inventions of those claims, details of construction being disregarded, consists in the substitution of both spiral and elliptical in the place of either spiral or elliptical springs. Indeed, the inven-
258 tions are wanting even in this measure of novelty, and reside merely in the substitution of elliptical for the semi-elliptical end springs. The claims are not limited to longitudinal end springs, as the specification points out they are only preferably employed; and the circumstance that the semi-elliptic springs of the Peckham patent extend transversely instead of longitudinally is therefore immaterial. It is manifest that the inventions secured by the claims are of a very narrow character, and that they cannot receive the broad construction which their language would authorize without affirming their invalidity for want of patentable novelty. It would be merely an aggregation of old parts to supplement the spiral springs by the elliptic springs, or the elliptic springs by the spiral springs, and would not involve invention, unless some new mode of operation due to the conjoint action of the two kinds of springs should result from doing so. It is asserted that a new result is obtained by the conjoint use of the two kinds of springs in that it breaks the r-ythm of the impulses imparted by each kind and thereby decreases the amplitude of the oscillation of the car. But when it is shown that the substitution merely consisted in employing elliptic springs in conjunction with the spiral springs, instead of semi-elliptic springs in conjunction with such springs, and that this substitution produces merely an improved and not a new result, the structural changes in form and arrangement which may

be discovered in the specification afford the only features of novelty which can support the claims.

A reference to the language of the specification shows that the patentee contemplated special features of construction and arrangement of the springs, and made them a part of his invention as disclosed in the patent. The specification in describing the springs uses this language: "The spiral springs, which are supported by or about the axle boxes, normally take the weight of the car. Between the extended sections of the upper chord and the side beams (that is near the ends of the truck) I place elliptical springs, which preferably extend longitudinally of the truck, and which
259 are so disposed that they will not be brought into action until the weight of the load on the axle-box springs begins to depress said spring abnormally. Then the elliptical springs begin to act and assist the spiral springs in resisting the pressure of the load." Again he says: "It is therefore clear that more than the ordinary load is intended to be carried on this structure, and for this reason more than ordinary devices for spring-supporting the car body are necessary. To this end I supplement the axle-box springs by placing elliptic springs of slower action between the extended portions or sections of the said beam and upper chord, and so arrange them in respect to each other that the elliptic springs will not come into play until after the axle-box springs have begun to compress, and the action of the spirals in lifting the car body is continued after the elliptic springs have ceased to act." In the detailed description of the various parts the specification points out that the elliptic springs are not secured at the top to the upper chord, but are held in place by a cap having downward extending legs. "The cap is interiorly chambered, so as to permit the elliptic spring 34[1] to move within it, the legs 46 acting to keep the said spring perpendicular, while space is left between the inner top portion of the cap and the top of the spring to permit the upper chord to be depressed some distance before the cap begins to depress the elliptic spring." Thus a space is left between the upper chord, upon which the pressure from the car body is exerted, and the top of the spring, which will prevent compression of the elliptic springs until compression of the spiral springs has already taken place.

If the patentee had attempted to do so it would have been difficult to frame a specification which more industriously sets forth as essential to his invention such a construction and arrangement of the spring devices that the elliptic springs will not be brought into play until the spiral springs have been compressed by the weight of the car body and the added load, "until the weight of the load on the axle-box springs begins to depress said
260 springs abnormally." This characteristic of the invention must be imported into the claims, and would have to be if the qualifying term "substantially as described" had not been incorporated into them.

We do not overlook the consideration that in other claims of the patent this functional characteristic of the invention is made a limitation in terms. Those claims, however, differ in other respects

from the two claims in controversy. There are 28 claims in all, and some of them are merely duplicates of others, varying in phraseology but not in substance. They were obviously framed to cover any possible theory of the invention which is hinted at in the specification, and which the exigencies of an infringement action may require.

The case is one in which it is apparent that the complainant cannot ultimately prevail, and following the practice sanctioned by Stover Mfg. Co. *v.* Mast Foos Co. (177 U. S., 485), one in which the bill should be dismissed.

The order granting the injunction is therefore reversed with costs, and the cause remitted to the court below with instructions to vacate the injunction and dismiss the bill with costs.

Henry P. Wells, for the appellants.

Francis Rawle and Frederick P. Fish, for the appellees.

261 United States Circuit Court of Appeals for the Second Circuit.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, Appellees,
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY ET AL., Defendants, Appellants.

Petition of Appellees for a Rehearing.

Frederick P. Fish, Francis Rawle, of counsel for petitioner.
Joseph L. Levy, solicitor.

[Stamped:] United States circuit court of appeals, second circuit. Filed May 8, 1901. William Parkin, clerk.

262 United States Circuit Court of Appeals, Second Circuit.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, Appellees,
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY and Others, Defendants, Appellants.

Petition of Appellees for a Rehearing.

The appellees in the above-entitled cause respectfully petition this honorable court that a rehearing may be granted, and that the decree of this court be modified in so far as it instructs the circuit court to dismiss the bill with costs.

This appeal was taken from an order granting a preliminary injunction upon affidavits; and as to that portion of the decree of this court which reverses the injunction order, and instructs the court below to vacate the injunction, complainants do not ask for a rehearing. For complainants, though believing themselves to be

aggrieved by the refusal of preliminary injunction, have had their "day in court" upon this issue.

But the complainants respectfully submit that this case should not be finally disposed of at this stage of the proceedings
263 upon *ex parte* affidavits. Under the practice in this circuit the complainants have had no opportunity at all to answer by affidavits the defendants' affidavits, which were filed at the hearing; moreover, they had substantially no opportunity to reply orally to defendants' argument. Furthermore, the complainants' counsel have not had the two hours' hearing in this court to which they are entitled under the rules upon an appeal from a decree on final hearing, but have only had the one hour which is allotted to the summary presentation of an argument on preliminary injunction.

Complainants submit that it would be an intolerable hardship and injustice to the complainants, if they should be deprived of the opportunity to present testimony on their own behalf and also to cross-examine the defendants' witnesses upon the following issues, among others, namely:

1. The actual operation of the defendants' devices as compared with the devices of the patent in suit.

2. The question whether defendants' devices infringe not only claims 1 and 2 but also other claims of the patent in suit, hereafter enumerated.

3. The question how the devices of the Peckham patent, No. 419,876 operate, and whether they necessarily limit the complainants' patent in the manner adjudged by this court.

4. The question whether the complainants' invention antedates the said Peckham patent.

5. (If there is any doubt upon the point.) The utility and value, as well as the wide adoption and use, of the devices of the patent in suit.

Finally, the complainants have never, either by brief or orally, argued the question of the dismissal of the bill. They failed to realize that there was any possibility that the court would dismiss the bill at this stage of the litigation, and therefore they did not deal with the question in their brief. Complainants' oral argument was confined to the merits of the motion, as again their counsel were so unfortunate as not to realize that the court might regard this case as coming under the very carefully guarded rule of the Mast-Foos case as to the right to dismiss a bill on motion for preliminary injunction. The complainants' counsel erred in this regard, but it is respectfully submitted that the error was excusable, and that in any event the complainants should not suffer for it.

Introduction.—How this Case Came Before this Court.

A previous suit upon this patent (Brill *vs.* Third Avenue Railroad Co.) was heard by Judge Shipman upon a long and elaborate record. Upon that record the learned judge affirmed the utility and patentability of the Brill invention in the most emphatic terms, saying (p. 239 of the present record):

264 "The invention, as a whole, attracted the immediate attention of railway superintendents, was found to accomplish its object and to be almost a complete remedy, and trucks having spiral springs next to the axle boxes, and elliptical springs on the extensions of the truck frames, have been universally adopted."

The court again, on page 243, referred to the utility and novelty of the broad invention in equally emphatic terms.

If there is any doubt in the minds of this court of the correctness of Judge Shipman's findings on these points, we desire the opportunity to establish these points by testimony in this case; but, if there is (as we believe) no doubt on the subject, the merit of the Brill patent is plain; and the patent should be so construed, if possible, as to protect the substance of the invention.

Judge Shipman also compared the different claims of the patent fully, and held expressly that the feature of the successive compression of the spiral and the elliptical springs was not a feature of claims 1 and 2. He said (p. 238):

"The gist of the invention consisted in combining with the frames of the truck and the spiral springs, another class of springs—viz., elliptical springs—between the car body and the extensions of the independent frame. The elliptical springs are slower in their action than the spiral springs and neutralize the longitudinal oscillation of the car body. * * * This leading feature of the invention is described in claims 1 and 2, which do not contain the limitations of the invention described in the next paragraph" (referring to the successive compression).

And the court again said (p. 243):

"It has already appeared that the gist of the invention is described in claims 1 and 2."

The court further considered the very numerous patents
265 cited and discussed by defendants (including the Manier patent 409,993 and Peckham patent 419,876, referred to in the opinion of the court), and held that none of these patents anticipated or limited Brill's invention.

Fortified by this decision upon a full record, the complainants filed their bill in this case, in which they averred that the defendants had infringed the patent in suit, without limiting this allegation to any particular claims (Record, p. 5).

The defendants' trucks, as is not denied, have that combination of spiral and elliptical springs which Judge Shipman had found to be "the gist" of the complainants' invention, and to be covered by claims 1 and 2 irrespective of the sequence of compression of the springs. Therefore, the complainants confined their motion for preliminary injunction to claims 1 and 2, as to the infringement of which it was supposed there could be no doubt in view of Judge Shipman's adjudication; and the complainants' affidavits have no discussion whatever of the comparative strength of defendants' elliptical and spiral springs or of their order of operation, such discussion or proof being quite immaterial, under Judge Shipman's decision, to the complainants' case upon claims 1 and 2.

In fact, the preliminary injunction motion was properly supported

by proofs of an almost formal character, to the effect that the defendants' devices embodied the invention of claims 1 and 2 as interpreted by Judge Shipman, such proof being sufficient to entitle the complainants to a preliminary injunction in the circuit court, under the well-established rule.

No new evidence as to the prior art has been offered by defendants on this motion; but this court held that in view of the Peckham patent 419,876, aided by the language of the specification of the patent in suit (both of which were fully before Judge Shipman), Judge Shipman's interpretation of claims 1 and 2 was erroneous, and that, therefore, the injunction must be vacated.

Inasmuch as the circuit court was clearly warranted by Judge Shipman's decision in granting an injunction, and as no new
266 evidence of any description was adduced in this case, the decision of this court may well have operated as a surprise to the complainants; for the usual practice of this court is not to treat an appeal from an injunction order, granted under such conditions, as if it were an appeal from the previous adjudication upon final hearing. In Consolidated Fastener Co. *vs.* Hays, 100 Fed. Rep., 984, 989, this court lays down the following principles:

"Shortly after its organization this court had occasion to enunciate the proposition, that where there was an appeal from an order granting preliminary injunction, the court below having followed an adjudication at circuit sustaining the patent after contest upon pleadings and proofs, such adjudication is to have the same weight which it should have before the circuit court. * * * The propriety of some such rule is apparent. The prior adjudication has been secured by complainant on testimony which has been sifted by cross-examination, and it would seem that he should be entitled to cross-examination of defendants' experts before being deprived of the advantage of his previous decree. Especially so in view of the ease with which *ex parte* affidavits of experts, exploiting any theory desired, may apparently be obtained. This practice has been ever since adhered to by this court."

Relying on the rule above enunciated, the complainants applied for a preliminary injunction upon the strength of Judge Shipman's decision, and on appeal from the injunction order this court has held Judge Shipman's rulings as to said Peckham patent, and as to the gist of the invention described in the patent in suit, to be erroneous, and therefore has revoked the injunction. To that decision we bow. But we submit that the complainants should not be altogether cut off, by a final decree dismissing the bill upon this incomplete record, from the opportunity of sustaining by proper proofs a patent which has been held to be so important an advance in this particular art.

267 In Mast-Foos Co. *vs.* Stover Mfg. Co., 177 U. S., 495, the Supreme Court very carefully limited the cases where the bill should be dismissed on appeal from a preliminary injunction order, and showed that such cases were altogether exceptional in character. The court said expressly:

"If the showing made by the plaintiff be incomplete, * * *

then, clearly, the case should be remanded for a full hearing upon pleadings and proofs."

This surely is the case at bar, as we shall proceed to show.

Again the court says:

"Ordinarily, if the case involves a question of fact, as of anticipation or infringement, we think the parties are entitled to put in their evidence in the manner prescribed by the rules of this court for taking testimony in equity cases."

Certainly, this case involves both questions of anticipation and of infringement.

The court proceeds to say that a bill should be dismissed, if there is a clear anticipation, or if it appear clear that there is no infringement, "and no suggestion be made of further proofs upon the subject." Here there is clear need of further proofs.

We submit that the owner of a patent, in asking for a preliminary injunction upon the strength of a prior adjudication, has the right to rely upon that adjudication, and upon such motion need not establish a second time, by full proofs, all the points which have been already adjudicated by the court. The very purpose of a preliminary injunction is to enable the complainant to reap the fruits of his prior victory won upon full proofs, and to hold matters in *statu quo* pending a final hearing in the subsequent suit. If a complainant on every preliminary injunction motion must offer affidavits fully covering every point set forth in the previous record for final hearing, it will impose not only an intolerable hard-
268 ship upon complainant, but an insupportable burden upon the courts.

Judge Shipman adjudged, in the most explicit manner, that claims 1 and 2 covered broadly the combination of spiral and elliptical springs; that this combination was of great value and was novel with Brill, and that the Peckham patent and the Manier patent had no tendency to anticipate this broad combination.

The complainants then came into court (according to the proper practice) with affidavits showing that the present defendants' constructions are within the scope of claims 1 and 2, as interpreted by Judge Shipman, and asked on the strength of that prior adjudication for a preliminary injunction with regard to those claims. No new references were cited by defendants, but on appeal this court held that Judge Shipman's view of the Peckham patent was erroneous, and that these claims must receive a narrower construction. The court, therefore, ordered the preliminary injunction to be vacated.

But we submit that the complainants have a right to be heard, upon full proofs, upon any issue of fact arising under claims 1 and 2, or any other claims, and that this case should not be finally disposed of by the court upon the incomplete and almost formal record presented by the complainants.

We will now proceed to set forth in order the principal points upon which the complainants desire opportunity to put in evidence in the manner prescribed by the rules, and to be fully heard by this court upon an appeal from final hearing in the ordinary course.

269 I.

The Mode of Operation of Complainants' and Defendants' Springs.

We desire opportunity to show that the actual operation of the combined elliptical and spiral springs described and shown in the Brill patent in suit and of those found in the defendants' infringing structures is substantially identical. In view of the decision of this court, the importance of this point cannot be overestimated, and the complainants desire to present full proofs thereon.

The complainants desire to show that in the Brill structure when the car body is placed upon the movable portion of the truck supported by the springs, the spiral springs are forthwith compressed; and that in the actual use of the loaded car both sets of springs support the weight of the car and its load and prevent longitudinal oscillation. Any other mode of construction would be an absurdity. The object of using the two kinds of springs is to prevent oscillation, and they co-operate to this end in practical use.

It is admitted in defendants' affidavits that an elliptical spring has a more sluggish action than a spiral spring. See, for example, Abbott (p. 223):

"It is true that owing to the frictional contact between the leaves of an elliptic spring, or semi-elliptic, that its action is more sluggish than that of coiled, or, as they have been called in this case, spiral springs."

See, to the same effect, Fowler, p. 164; Newbury, p. 187.

So the Brill patent says (p. 2, line 4):

"The elliptical springs being slower in their action than the spiral springs."

It is for this reason that the combination of the elliptical
270 with the spiral springs prevents the longitudinal oscillation of the car by breaking the rhythm, as Judge Shipman found (p. 238), and it is absolutely immaterial to this novel result whether the elliptical springs or the spiral springs come into play first when the car body is placed upon the truck. The main point is that, in operation, when both sets of springs are working, the elliptical springs, being more sluggish, break the rhythm, and so prevent oscillation.

As a subordinate matter, there is probably some advantage in having one or other set of springs mainly support the car when there is a very light load, because, if all the springs were in action with such a light load, the car would ride stiffly, being too rigidly supported by the combined action of all the springs. Of this subordinate invention Judge Shipman held (p. 243):

"The result of the minor invention of claims 9, 10, 11 and 14 was important, though, upon first inspection, its marked importance does not appear, but it perfected the general invention of the first two claims."

It is obvious—and the complainants believe they can easily show, if given the opportunity—that it is wholly unimportant in practice whether it is the elliptic springs or the spiral springs that mainly

support the car with a light load. In fact, we do not understand that any one has suggested that there is any practical difference in this particular.

But the main feature of the invention is the co-operation of the two kinds of springs to prevent oscillation. Just how heavy the load must be before both sets thus co-operate, it is, of course, impossible to specify, and the Brill patent does not attempt to specify. In two places (p. 1, line 73; p. 2, line 3), the Brill patent speaks generally of the "abnormal" depression of the car; but this phrase clearly has no definite significance. The point is that one set of springs will first come in action with a very light load, and that thereafter, both sets will co-operate to prevent the objectionable oscillation.

271 Our view of the operation of the Brill springs is supported by the affidavit of Mr. Abbott for defendants (p. 298), in which he depicts Brill as supporting the car body upon the spiral springs, "when the car is empty or carrying a small load," so that "it may ride easily and smoothly," and as providing "elliptical springs so combined with the spiral springs as that, when a heavy load is present or the car subjected to abnormal depressing influences—for instance, rapid travel over a rough road-bed—then these elliptical springs would be called into action in aid of, or as the patent says 'supplemental to' the spiral springs."

This statement is substantially correct, only that to our mind the contrast is between a substantially empty car and a loaded car, and not between a small and a heavy load.

This view is supported by the affidavit of another of defendants' witnesses, Mr. Beetem, a practical railway man, who says (p. 174):

"In the trucks manufactured by the Brill Company the entire weight of the empty car body is carried upon the spiral springs."

But the main point is that, in the travel of a car with its load, both sets of springs shall support the weight and prevent oscillation.

Of the operation of the defendants' car-truck springs, the opinion of this court says:

"In the car trucks of the defendant both sets of springs are brought into action and begin to compress simultaneously when the weight upon them is greater than the normal weight of the car."

This is precisely the mode of operation which is described in the passages from the Brill patent cited by the court (as for example, page 1, lines 69–75), and in Mr. Abbott's affidavit as just quoted.

As to the actual operation of the defendants' springs the complainants have offered no proofs, having no opportunity to

272 reply to defendants' affidavits. The defendants' affidavits are vague on the subject of the action of defendants' springs, and their statements could be elucidated by proper cross-examination.

It is conceded, however, that the springs co-operate in the actual running of loaded cars. The witnesses are emphatic only on the fact that the elliptical springs are the stronger of the two. See, for example, Peckham (p. 146), who says:

"The weight of the car has always and invariably almost wholly

been thrown upon the elliptical springs, which have always been the stronger springs and the controlling springs. * * * The greater part of the weight of the car body has always rested upon and been supported by the elliptical springs."

Beetem, the practical railway man to whose testimony we have already referred, says of the defendants' trucks (p. 173):

"The arrangement of the car-supporting springs is such that the weight of the car body is first supported upon four elliptical springs, which are rigidly secured between the top and bottom, and carry the greater part of the weight of the car body. The spirals, which are weaker, carry the remainder of the load."

Similarly, on page 174, he says:

"The spiral springs are made weaker and reinforce the elliptical springs as the load of the car increases."

Complainants submit that they are entitled to the opportunity to cross-examine these witnesses.

The complainants can show, if they are given opportunity, that, in the actual running of a car carrying passengers, the operation of the combined elliptical and spiral springs will be precisely and exactly the same in the defendants' trucks as in the truck described and shown in the patent in suit, and will prevent oscillation in just the same manner.

273 And the complainants can further show that there is also the same action, in substance, when the empty car is put upon the movable part of the truck; in the complainants' patent the spiral springs are the first to take this weight of the empty car body and to be depressed, while in the defendants' construction the elliptical springs first receive and support the weight of the empty car body. Thereafter both sets co-operate.

We claim that we have the right to make experiments to show what the actual action of defendants' springs is. Such proofs were immaterial under Judge Shipman's construction of claims 1 and 2. But if, upon full proofs, the complainants fail to show that the Peckham patent does not interfere with that construction of those claims, we shall submit that claims 1 and 2, as well as other claims hereafter mentioned, even if limited, should receive a less limited interpretation than this court has now imposed upon them and one which will still cover the defendants' combination of elliptical and spiral springs if they operate in the manner just set forth, as we believe we can prove they do, and as the defendants' affidavits indicate that they do.

In other words, if it must be held a material feature of the complainants' broad invention (which we deny), that one set of springs receives the weight of the empty car body before the other, we shall argue that claims 1 and 2 (and also other claims) cover an organization in which the elliptical springs operate before the spiral springs, as well as one in which the spiral springs operate before the elliptical springs, there being no practical difference between these two constructions; and we urge that we have a right to be heard upon this proposition, upon which we have never been heard.

274

II.

Other Claims of the Patent in Suit.

At final hearing, in addition to claims 1 and 2 (which alone were in issue on the preliminary injunction motion), we desire to present other claims—notably claims 9 and 10, both of which relate to the successive compression of two sets of springs, but without specifying that it is the spiral springs which are compressed before the elliptical springs. Claim 9 simply states that some of the springs are compressed subsequent to other springs, which applies to all the defendants' forms of truck, as shown in the diagrams (Record, p. 72); while claim 10 specifies that the end springs are compressed subsequent to the other springs, which applies to the defendants' "Standard" and "Extra Long" trucks, which had extra spiral springs at the end of the truck outside the elliptical springs.

We claim the right to introduce these claims in issue and to give testimony about them.

III.

The Peckham Patent, No. 419,876.

In restricting claims 1 and 2 of the Brill patent to a narrower scope than that given to these claims by Judge Shipman, the opinion of this court relies mainly upon the Peckham patent and upon one quotation relating thereto from Mr. Livermore's deposition in the Third Avenue suit. The court states that the language of these claims would authorize a broader construction, saying:

"They cannot receive the broad construction which their
275 language would authorize without affirming their invalidity for want of patentable novelty. It would be merely an aggregation of old parts to supplement the spiral springs by the elliptical springs or the elliptical springs by the spiral springs, and would not involve invention, unless some new mode of operation, due to the conjoint action of the two kinds of springs, should result from so doing."

The court then proceeds to find that, in view of Peckham, and of Peckham alone, there was no new mode of operation or new result produced by Brill's combination.

It must be borne in mind that every presumption is against this Peckham patent disclosing a structure having the same mode of operation as the Brill combination of springs; for it appears that Peckham, in all his three types of trucks here complained of as infringements (Record, p. 72) combines with the spiral springs full-elliptical springs, located between the extended sections of the sides of the upper chords and of the side beams, precisely as Brill did, and has not used the transverse semi-elliptical springs of his own patent, as it was open for him to do without any accusation of infringement.

In fact, this Peckham patent is a mere paper patent. Neither Mr. Peckham in his affidavit describing various forms of car truck used by defendant company, nor any other of defendants' witnesses,

suggests that such a construction as that shown in this Peckham patent has ever been practically employed by Mr. Peckham or either of the Peckham Companies. In fact, as is shown by the Record (p. 91), the Peckham Company continued up to 1895 to advertise car trucks supported by sets of spiral springs only; and it was after the issue of the Brill patent, and the wide adoption of the Brill invention, that the Peckham Company began the use of its infringing constructions, and Peckham applied in 1894 and in 1895 for two patents, Nos. 555,530 and 563,685, which show the combination of spirals and full elliptics on the side beams, here complained of as infringements.

276 Judge Shipman held in the Third Avenue case, in the most emphatic language (p. 242) that the Peckham patent was irrelevant because the construction "has not the conjoint action of the patented combination, nor does it perform the function of the Brill device;" and pointed out (p. 241) that defendants' expert in that case had not referred to this patent in his direct examination as one of the "best anticipations."

The complainants, in the preliminary injunction motion relying on Judge Shipman's decision, gave no testimony as to the actual operation of the Peckham structure; nor did the defendants offer any testimony on this point, beyond the bare assertion that a semi-elliptical and an elliptical spring were the same thing.

The court has now reversed Judge Shipman's finding as to this Peckham patent mainly because of one isolated expression in the deposition of complainants' expert in the very record which was before Judge Shipman.

We ask for the opportunity of proving by proper evidence and experiment that the construction of the Peckham patent (Figs. 4 and 5) is radically different from that used by Brill and in the defendants' infringing truck, not so much because it has a semi-elliptical spring, as because there are no elliptical or semi-elliptical springs located between the extended sections of the upper chord and the side beams to support the car body at each of its four corners; on the contrary, each of the two semi-elliptical springs is carried across the truck transversely, so that it contacts at its middle with a supplementary transverse truss at the front or rear of the car body, and its ends play loosely in shoes on the side beams.

We can prove, if given the opportunity, that such a construction is radically different from Brill's in operation and result.

This court quotes in its opinion the words of the Brill patent (p. 1, lines 66–69), "between the extended sections of the upper chord and the side beams I place elliptical springs, which

277 preferably extend longitudinally of the truck;" and, we submit, misinterprets that language. For the court deduces from this passage the conclusion that "the circumstance that the semi-elliptical springs of the Peckham patent extend transversely instead of longitudinally is, therefore, immaterial." But the point of this passage is that the four elliptical springs support the four corners of the car, and are, therefore, necessarily placed "between the extended sections of the upper chord and the side beams." In

this location each of the four springs may extend either longitudinally or transversely, although, obviously, the longitudinal is the preferable position, as the patentee says. But Peckham's semi-elliptical springs are not between the longitudinal extensions of the upper chords and the side beams at all; each is between the two side beams and a transverse truss, and, therefore, each of the four corners of the car is left without any support, a construction which would be wholly inoperative in practical use. Judge Shipman had this distinction in mind where he states of the Peckham patent (p. 242):

"The upper beams are supported on spiral springs on the axle boxes."

The distinction is not, as this court seems to suppose, in which direction the elliptical springs extend, but where they are located.

This matter of the location of the elliptical springs is mentioned over and over again in the Brill specification. For example, page 2, line 122:

"By placing elliptical springs of slower action between the extended portions of sections of the side beams and upper chord."

Line 130:

"The devices which secure the elliptical springs between the side beams and the upper chord."

278 Page 3, line 26:

"The (elliptical) springs are rigidly secured to *to* the side beams."

Line 171:

"A portion of this action would be taken on the springs supported on the ends of the side beams."

We desire an opportunity of showing, by practical testimony, that there is a vital difference between the location of the complainants' and defendants' elliptical springs, on the one hand, and the location of the semi-elliptical spring of the Peckham patent on the other; that not only had Peckham in his patent no notion of the utility of combining elliptical and spiral springs (as is evident both from the language of this patent and from his own subsequent patents), but that the construction shown by him in Figs. 4 and 5 of this patent was not practical.

We should desire, also, to show other features which distinguish the construction of the Peckham patent from that of the Brill patent, and prove that the former is not useful. For example, in the Brill patent, as in the defendants' infringing trucks, the side beams of the "stationary frame" are rigidly connected with the axle-box saddles. As Judge Shipman said (p. 237):

"In the patented structure a pair of rigid longitudinal side beams, which derive their support from the axle boxes, extend lengthwise of the truck beyond the wheels at each end."

On the other hand, the Peckham patent shows the side beams pivotally connected with the axle boxes, so as to be able to swing back and forth longitudinally—a perfectly useless construction, which has never been practically used; and there are other important practical differences.

We submit that the complainants should not be deprived of the

substance of their patent until they at least have the opportunity to offer proof about this Peckham patent, and to cross-examine the defendants' witnesses, if they attempt to controvert this proof. Such proof was not called for in the Third Avenue case, since defendants' testimony did not assert that this Peckham patent anticipated or limited the Brill patent.

279

IV.

The Date of Plaintiffs' Invention.

Inasmuch as Judge Shipman found the Peckham patent not to be a reference, the question of the date of the complainants' invention was not deemed material to the argument upon this injunction motion. The complainants believe that they can show that Brill's invention antedates the application for the Peckham patent in question; and we submit that the complainants should have an opportunity to offer testimony and to be heard fully on this question, which has never yet been adjudicated.

Conclusion.

The complainants are confident that, upon full proofs, with full opportunity for cross-examination to both sides, the court will be convinced that the defendants' car trucks operate substantially in accordance with what is described in the Brill patent, and infringe not only claims 1 and 2 (whether broadly interpreted or narrowed beyond the interpretation given to those claims by Judge Shipman), but also claims 9 and 10 and possibly other claims; and that the Peckham patent discloses a structure which does not produce the useful results which were novel with Brill and are common to the truck of the Brill patent and the defendants' trucks.

Wherefore, the complainants, appellees, respectfully petition that a rehearing may be granted, and that the decree of this court may be modified, in so far as it instructs the court below to dismiss the bill with costs.

280

FREDERICK P. FISH,
FRANCIS RAWLE,
Of Counsel for Complainants.

JOSEPH L. LEVY, *Solicitor.*

The undersigned, counsel for the complainants in the above-entitled suit, hereby certify that in their opinion there is good ground for the petition for rehearing hereinbefore contained, and that said petition is not presented for purposes of delay.

FREDERICK P. FISH.
FRANCIS RAWLE.

At a stated term of the United States circuit court of appeals for the second circuit, held at the court-rooms in the post-office building, city of New York, on the 16th day of May, 1901.

281

Present: Hon. William J. Wallace, Hon. Edward B. Thomas, Hon. Hoyt H. Wheeler, judges.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, Appellees,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY ET AL., Defendants, Appellants.

A petition for a rehearing having been filed herein by counsel for the appellees, and the same having been duly considered, it is hereby

Ordered that said petition be and it hereby is granted, and that briefs be submitted within twenty days from the date of this order—no oral argument to be had.

WM. J. WALLACE.

Endorsed: United States circuit court of appeals, second circuit. John A. Brill *et al. vs.* Peckham Motor Truck & Wheel Company. Order. United States circuit court of appeals, second circuit. Filed May 18, 1901. William Parkin clerk.

282 United States Circuit Court of Appeals for the Second Circuit, October Term, 1900.

Submitted May 16, 1901; decided August 22, 1901.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, Appellees,
vs.
THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, Defendants, Appellants.
No. 139.

On the reargument of the appeal from the circuit court of the United States for the southern district of New York.

Before Judges Wallace, Wheeler, and Thomas.

Per Curiam: A reargument was granted in this cause because the court deemed it proper to reconsider that part of its former order directing a dismissal of the complainants' bill. A majority of the court remain of the opinion that there should be no modification of the order. Accordingly a mandate will issue pursuant to the terms of the former order.

Submitted without argument.

283 At a stated term of the United States circuit court of appeals for the second circuit, held at the court-rooms in the post-office building, city of New York, on the 3rd day of September, 1901.

Present: Hon. William J. Wallace, circuit judge, and Hon. Hoyt H. Wheeler and Hon. Edward B. Thomas, district judges.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, Appellees,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY ET AL., Defendants, Appellants.

The appellee having moved for a rehearing in this cause and such rehearing having been granted; and the appellee having moved thereon that the decision be modified by striking out so much thereof, as directs a dismissal of the bill of complaint;

Now it is ordered that said motion be and it hereby is denied.

W. J. W.

Endorsed: United States circuit court of appeals, second circuit. John A. Brill *et al. vs.* Peckham Motor Truck & Wheel Co. Order. United States circuit court of appeals, second circuit. Filed Sep. 5 1901.

284 At a stated term of the United States circuit court of appeals, in and for the second circuit, held at the court-rooms in the post-office building in the city of New York, on the 3rd day of September, one thousand nine hundred and one.

Present: Hon. William J. Wallace, circuit judge, and Hon. Hoyt H. Wheeler and Hon. Edward B. Thomas, district judges.

JOHN A. BRILL and THE J. G. BRILL COMPANY, Complainants, Appellees,
vs.
THE PECKHAM MOTOR TRUCK & WHEEL COMPANY ET AL., Defendants, Appellants.

Appeal from the circuit court of the United States for the southern district of New York.

This cause came on to be heard on the transcript of record from the circuit court of the United States, for the southern district of New York, and was argued by counsel.

On consideration whereof, it is now hereby ordered, adjudged and decreed that the order of said circuit court be and it hereby is reversed with costs, and cause remanded to said court with instructions to dismiss the bill.

It is further ordered that a mandate issue to the said circuit court in accordance with this decree.

W. J. W.

285 Endorsed: United States circuit court of appeals, second circuit. J. G. Brill *et al. vs.* Peckham Motor Truck & Wheel Co. Order for mandate. United States circuit court of appeals, second circuit Filed Sep. 5, 1901. William Parkin, clerk.

286 UNITED STATES OF AMERICA, } ss.:
Southern District of New York, }

I, William Parkin, clerk of the United States circuit court of appeals for the second circuit, do hereby certify that the foregoing pages, numbered from 1 to 285 inclusive, contain a true and complete transcript of the record and proceedings had in said court, in the case of J. A. Brill & J. G. Brill Company, against Peckham Motor Truck & Wheel Co. as the same remain of record and on file in my office.

In testimony whereof, I have caused the seal of the said court to be hereunto affixed, at the city of New York, in the southern district of New York, in the second circuit, this 24th day of October, in the year of our Lord one thousand nine hundred and one and of the Independence of the said United States the one hundred and twenty-sixth.

Seal United States Circuit Court of Appeals, Second Circuit.

WM. PARKIN, *Clerk.*

IN THE

Supreme Court of the United States

October Term, 1901. *No.*

JOHN A. BRILL AND THE J. G. BRILL COMPANY,
Petitioners,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, *et al.*,
Respondents.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT.

To the Honorable the Justices of the Supreme Court of the United States:

Your petitioners, John A. Brill and the J. G. Brill Company, respectfully show to your Honors as follows:

1. On or about October 15, 1900, the petitioners filed their bill of complaint in equity in the Circuit Court of the United States for the Southern District of New York, against the Peckham Motor Truck and Wheel Company *et al.*, the respondents herein, alleging the infringement of letters patent of the United States, No. 478,218, for electric street railway car

trucks, dated July 5, 1892, issued to George Martin Brill, the title to which had become vested in the complainants therein.

2. On October 26, 1900, your petitioners, the complainants in the said bill in equity, made a motion before the said Circuit Court for a preliminary injunction. The complainants' injunction affidavits were served about ten days before said motion was argued; the defendants' affidavits were filed at bar on the day the motion was argued, and had not previously been served on the complainants. The complainants *were not permitted, under the rules of practice of the said Court, to file counter-affidavits* relating to new matter set up in defendants' affidavits.

3. The bill averred, and the injunction affidavits established, that a previous suit upon the *same letters patent* (*Brill* vs. *Third Avenue Railroad Company*) had been decided (July 9, 1900) by Judge Shipman in the Circuit Court for the Southern District of New York, in which he *sustained the validity* of the patent here in suit and of claims 1, 2, 9, 10, 11, 12, 14 and 27 thereof. (Reported in 103 Fed. Rep. 289.)

4. Upon consideration the said Circuit Court in the present proceedings ordered a preliminary injunction to issue. In his opinion, filed December 3, 1900 (105 Fed. Rep. 626.) Judge Lacombe said:

> "The only question presented is whether defendant's structure *infringes*. That involves the construction of the claims declared on, and, for the purpose of this motion, the *construction already adopted by this court on final hearing* in the Third Avenue case should be followed; for there is no prior patent, no prior use, proved here which was not before Judge Shipman. It is true that in that case the defendant's device was a much

closer copy than the one now under consideration, containing, as it did, the feature that the spiral springs came first into play, and the further feature of depending caps, in which the leaves of the elliptic springs play vertically. But *the court most carefully indicates that the leading feature of the invention lies outside of these details.*

. . . . . .

"The combination which Judge Shipman describes as the *gist* of the invention *is undoubtedly in defendant's structure*, and, under well-settled rules of practice, complainant is entitled to a restraining order until final hearing."

At the same time Judge Lacombe entered an order directing that the operation of the said preliminary injunction should be suspended pending an appeal to the Circuit Court of Appeals *provided the same be taken in five days.*

5. An appeal was thereupon taken by the defendants in said proceedings, the respondents herein. The cause was heard by the Circuit Court of Appeals for the Second Circuit on March 13, 1901, and upon consideration an opinion was filed therein holding that the decree of the Circuit Court should be reversed, and the cause be remanded with a direction to the Circuit Court to dismiss the bill of complaint with costs. (Reported in 108 Fed. Rep. 267.) This was done upon the supposed authority of *Mast, Foos & Company* vs. *Stover Manfg Co.*, 177 U. S. 485.

6. Thereupon your petitioners, the complainants in the said cause, filed their petition in the said Circuit Court of Appeals, praying for a rehearing of the cause to the end that the decree of the said court should be modified, at least in so far as it directed the Circuit Court to dismiss the bill of complaint. The court thereupon granted the prayer of the

said petitioners for a rehearing, and ordered that the cause should be reheard on printed briefs. Such briefs were thereupon filed on behalf of the respective parties. On August 22, 1901, the Circuit Court of Appeals filed an opinion in the following words:

> "A re-argument was granted in this cause because the court deemed it proper to reconsider that part of its former order directing a dismissal of complainants' bill. A majority of the court remain of the opinion that there should be no modification of the order.
>
> "Accordingly a mandate will issue pursuant to the terms of the former order."

A mandate has since gone out to the Circuit Court, directing it to dismiss the bill of complaint with costs.

7. The letters patent in suit relate to the construction of trucks for four-wheel electric street cars. The nature of the invention may best be stated in the language of Judge Shipman in the case (*Brill* vs. *Third Avenue Railroad Co.*) in which he ***sustained the validity*** of the patent now before this court.

> "After electricity was substituted upon city railroads as a motive power to move cars formerly drawn by horses, the railroad corporations were subjected to great expense and the passengers to severe inconvenience in consequence of the oscillation of the cars from end to end, or "galloping" motion as it was called. The horse cars were sixteen feet long and had a wheel base or distance between the two pairs of wheels of six to seven and one-half feet. The new electric cars were from eighteen to twenty-two feet long, but, in consequence of the short radii of curves in city streets where cars turn from street to street, it was necessary to keep the wheel base about as short as before to enable the car to pass around the curves, and, there-

fore, the car body was longer than the truck and overhung it. The result was that these overhanging and unsupported ends oscillated, pounded the rails, strained the trucks and caused discomfort, and, on heavily laden open cars, danger to the passengers. The patentee says in his specification, 'The main object of my invention is to enable a truck of comparatively short wheel-base to be used, and to support a car body upon it, the ends of which overhang the truck for some distance. My invention is also intended to overcome in a measure the end vibration or oscillation of the car body and movable portion of the truck to which the car is secured.'"

This is clearly, in effect, a statement that the object of the invention was to support a long car body on a short wheel-base in such a manner as to provide an improved and more efficient car support, and to overcome end vibration or oscillation.

8. The trucks in use on four-wheel cars prior to the date of this invention had side beams or frames resting on the axle boxes. The car springs were supported on these side beams by *spiral* springs. Resting upon the spiral springs were upper chords or frames, to which the car body was fastened and on which it rested, the two parts being spring-supported. The affidavits show, as just stated in the extract from Judge Shipman's opinion, that this method of spring support was a failure. The cars "oscillated, pounded the rails, strained the trucks and caused discomfort, and, on heavily laden open cars, danger to the passengers." The evidence further shows that this oscillation was so excessive that the speed had to be reduced below the limit of profitable operation. The patent in suit furnished almost a complete remedy. By the combination of elliptical springs with the old spiral springs in their patented relationship, which was entirely new in the art, the *rhythm of the motion* of the oscillating car body was broken and the gallop-

ing or rocking motion was done away with. What the patentee really invented and gave to the art was the knowledge that the combination of spiral and elliptical springs, being springs of different periods of vibration, would, in combination with the stationary and movable frames of the truck of the patent, prevent or lessen oscillation. Experience and the practical use of the truck of the patent on electric railways proved that he was correct; the old spiral spring arrangements went entirely out of use, and the combination of the patent was, as Judge Shipman found, "universally adopted."

9. Claims 1 and 2, which were the only claims in controversy on this motion for a *preliminary injunction* (but *not* the only claims as to which complainants expect to establish infringement at *final hearing*), are as follows:

> "1. In a motor-truck, the combination, with a stationary frame supported upon the running-gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame substantially as described.
>
> "2. In a truck, a spring-supporting frame supported upon the running-gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, substantially as described."

Claim 1 covers the stationary frame (supported on the running gear); the movable frame (on which the car body rests); spiral springs located between these two frames; and elliptical springs located between the *outward extensions* of those frames.

Claim 2 covers the said stationary frame (supported on the running gear by *saddles*); the said movable frame; spiral springs between said saddles and said movable frame; and elliptical springs *between said frames*.

Claim 1 provides that the elliptical springs shall be located between the *outward extensions* of the movable and stationary frames, while claim 2 specifies only that their location shall be *between* said frames.

Judge Shipman held as follows:

> "The *gist* of the invention consisted of combining with the frames of the truck and the spiral springs, another class of springs, viz., elliptical springs, between the car body and the extensions of the independent [stationary] frame. The *elliptical* springs are *slower* in their *action* than the spiral springs and *neutralize the longitudinal oscillation* of the car body."

Other claims of the patent (9, 10, 11 and 14) contain an *additional* feature of the invention not contained in claims 1 and 2. This additional feature is also well expressed by Judge Shipman in the same case in the following words:

> "A *second* and *minor feature* of the invention described in claims 9, 10, 11 and 14 is such an arrangement of the elliptical springs with the car body that they 'will not come into play until after the axle-box springs have begun to compress, and the action of the spiral springs in lifting the car body is continued after the elliptical springs have ceased to act.' The elliptical springs are not depressed until the car body or one end of it has become depressed by the weight of the passengers or some other cause, when this slower motion interposes and checks the continuation or increase of oscillation."

And Judge Shipman further said in the same opinion:

> "It has already appeared that the *gist of the invention* is described in claims 1 and 2.

"The result of the *minor* invention of claims 9, 10, 11 and 14 was important, though upon first inspection its marked importance does not appear, but it perfected the *general* invention of the first two claims."

10. The defendants (the Peckham Company) appear to have manufactured three kinds of trucks, all of which had movable frames, and stationary frames (side beams) supported on the running gear, both of which frames were identical with those of the patent in suit. They also had spiral springs located between said frames, and elliptical springs located between the extended sections of said frames as in claim 1. The said trucks had, in combination with said movable frames and stationary frames (the latter supported on the running gear by *saddles*), spiral springs located between the saddles and the movable frames and elliptical springs located between the said movable and stationary frames as in claim 2.

The defendants' counsel has at all times admitted that if any one of the defendants' trucks infringed, they all did.

The defendants took the ground:

1. That *their* trucks prevented or lessened oscillation *solely* by the use of small underlying tension springs attached to the lower ends of rods which connected the upper and lower frames.

2. While admitting that they used the elliptical springs (of the patent in suit), they set up they that used them solely as braces to steady the spring-supported car on the truck and to prevent it from having a swaying or side-to-side motion, for which purpose they fastened the upper side of their elliptical springs to the lower side of their movable frames.

They argued that, for these reasons, their structures "differed radically both in construction and mode of operation from

that of the patent in suit." They did not, however, pretend to dispute that all three of these trucks contained the invention of claims 1 and 2, if these claims were to be construed as they read and as they were construed by Judge Shipman. And Judge Lacombe, in the Circuit Court, held that the combination which Judge Shipman described as the gist of the invention is undoubtedly in defendants' structure.

3. But they set up that the state of the art as shown by two patents, viz., Manier, No. 409,993, issued August 27, 1889, and Peckham, No. 419,876, issued January 21, 1890 (both of which were fully considered by Judge Shipman), imposed such a limitation upon claims 1 and 2 that the said claims could not be held to cover the defendants' trucks. The defendants, while admitting their use of said stationary and movable frames and the combination of spiral and elliptical springs with said frames, claimed that their spiral and elliptical springs were so arranged that their elliptical springs did not come under compression subsequently to the spiral springs, and therefore they did not infringe upon claims 1 and 2, which they maintained (contrary to Judge Shipman's positive adjudication and to the plain language of said claims), must be limited by the said state of the art and the language of the patent to such subsequent compression of the elliptical springs.

11. The record in the cause showed, as above stated, that the previous suit upon this patent (*Brill* vs. *Third Avenue Railroad Company*, decided July 9, 1900) had been heard by Judge *Shipman*, upon a long and elaborate record. The hearing occupied an entire day, and extensive printed briefs were filed on both sides. The case was elaborately contested at every point by able and experienced counsel. Copies of the record in that case were before the court below as a part of the evidence in the present case. The complainants' affida-

vits in the present case were made by substantially the same persons as testified in the *Third Avenue* case, and covered substantially the same ground. The above-mentioned patents to Manier (409,993) and Peckham (419,876), were set up in that case, were fully considered by the expert witness for the defendants therein, and by Judge *Shipman* in his opinion, and were disposed of by him as not placing any limitation upon any of the claims in the controversy before him. The *Third Avenue* record shows that, in a full and careful opinion, he sustained the validity of claims 1, 2, 9, 10, 11, 12, 14 and 27. In doing so he classified those claims as follows:

Claims 1 and 2 were held by him, as above stated, to cover the *gist of the invention* of the patent, which consisted in combining with the frames of the truck and the spiral springs another class of springs, viz.: elliptical springs, between the upper or movable frames and the extensions of the side beams (which rest on the axle boxes).

Claims 9, 10, 11 and 14 were held by him to constitute a *minor feature* of the invention, viz.: such an arrangement of the elliptical springs that they are not depressed until the car body, or one end of it, has become depressed.

Claims 12 and 27 as sustained by him need not be particularly considered.

This precise classification of the claims and the exact scope of the claims in each class were of the essence of the decision of Judge *Shipman*. It was the principal contention in the case before him and its decision was absolutely essential to the proper adjudication of the issues raised therein. Judge *Shipman* was of opinion that claims 1 and 2 were to be construed broadly in accordance with their terms, and so construed them notwithstanding the Manier and Peckham patents, which were fully considered by him, and which alone are relied upon by the present defendants. He said:

> "The *gist* of the invention consisted in combining with the frames of the truck and the spiral springs, another

class of springs, viz., elliptical springs between the car body and the extensions of the independent frame. The elliptical springs are slower in their action than the spiral springs and neutralize the longitudinal oscillation of the car body. * * * This leading feature of the invention is described in claims 1 and 2, which do not contain the limitations of the invention described in the next paragraph [referring to the successive compression].

"It has already appeared that *the gist of the invention is described in claims 1 and 2.*"

12. The present defendants have never attempted to deny (nor did the Court below deny), that all three of their truck structures infringe upon claims 1 and 2, either—

(1) If these claims are to be construed as they read; or

(2) If they are to be construed as Judge *Shipman* construed them.

It further appeared fully in the *Third Avenue* case (and the same facts substantially are established by practically the same witnesses deposing in the present Record) that prior to the invention of the patent in suit, the use of electric street railway cars with long overhanging ends which were then *necessary* to the successful conduct of the business, was rendered *practically and commercially impossible* by reason of the excessive oscillation of the cars when running at speed, that the invention of the patent in suit afforded a remedy for this oscillation, and that this invention was immediately adopted by the trade, and *was "universally adopted," to the exclusion of all other and earlier devices.* In the opinion in the *Third Avenue* case, on the same state of the art as is now before this court, Judge Shipman said:

"The invention, as a whole, attracted the immediate attention of railway superintendents, *was found to accomplish its object and to be almost a complete remedy*, and

trucks having spiral springs next to the axle boxes and elliptical springs on the extensions of the truck frames, *have been universally adopted.*"

"The necessity for a remedy against the pounding of the car, the importance of the result, the adoption of the invention by experienced railway superintendents, the number of previous attempts at a remedy, and the barrenness of their results, go far to show that the work of an inventive mind was required, and was active in the invention. The testimony of the defendants' expert itself, as he goes through the history of the art, and thereby points out what the patentee's combination did, as compared with previous efforts to do something, show that the patented improvement was patentable."

13. Fortified by this decision of Judge *Shipman* upon a full record, the complainants filed their bill in the present case, in which they aver that the defendants had infringed upon the patent in suit *without limiting this allegation to any particular claims.* The defendants' trucks, as has not been denied, have that combination of spiral and elliptical springs which Judge *Shipman* found to be the *gist* of the complainants' invention and to be covered by claims 1 and 2. Therefore the complainants confined their motion for a *preliminary injunction* to claims 1 and 2, as to the infringement of which it was supposed then (and has never been denied), there could be no doubt, in view of Judge *Shipman's* adjudication. The motion for a preliminary injunction was properly, under the usual and proper practice, supported by proofs of an almost formal character—to the effect that the defendants' devices embodied the invention of claims 1 and 2 as interpreted by Judge *Shipman*, such proof being sufficient to entitle the complainants to a preliminary injunction in the Circuit Court

under the well-settled rule. [1] Relying upon the opinion of Judge *Shipman* in the *Third Avenue* case upon a record containing both the Manier and Peckham patents (alone referred to by the court below in this case as imposing a limitation upon the scope of claims 1 and 2), the complainants in the present case deemed it unnecessary to show by their injunction affidavits that the actual operation of the combined elliptical and spiral springs described and shown in the Brill patent in suit, and those found in the defendants' infringing truck structures, was identical. In so far as there is any evidence in this Record for defendants to the contrary, it consists of *ex parte* affidavits to which, under the practice of the Circuit Court for the Second Circuit, the *complainants were not permitted to reply*, and contains the statements of affiants who have not been subjected to cross-examination, and these affiants were, with one or to minor exceptions, either interested parties or expert witnesses employed by the respondents herein for the purpose of testifying on their behalf.

Proof of the actual operation or action of the springs of the defendants' trucks was immaterial under the construction placed by Judge *Shipman* upon claims 1 and 2, and no such proof therefore was given. But if, upon full proofs, taken in

[1] In the recent case of *Consolidated Fastener Co.* vs. *Hays*, 100 Fed. Rep. 984, 989 (decided February 28, 1900) the Circuit Court of Appeals for the Second Circuit lays down the following principles:

"Shortly after its organization this Court had occasion to enunciate the proposition that, where there was an appeal from an order granting preliminary injunction, the Court below having followed an adjudication at circuit sustaining the patent after contest upon pleadings and proofs, such adjudication is to have the same weight which it should have before the Circuit Court. * * * The propriety of some such rule is apparent. The prior adjudication has been secured by complainant on testimony which has been sifted by cross-examination, and it would seem that he should be entitled to cross-examination of defendant's experts before being deprived of the advantage of his previous decree. Especially so in view of the ease with which *ex parte* affidavits of experts exploiting any theory desired may apparently be obtained. This practice *has been ever since adhered to by this Court.*"

the due course of equity, the complainants fail to show that the Peckham patent, 419,876, does *not* interfere with the construction placed upon claims 1 and 2 by Judge Shipman, your petitioners claim that they have a right in justice to show that claims 1 and 2, even if limited, should receive a less limited interpretation than has been imposed upon them by the Circuit Court of Appeals, and one which will still cover defendants' combination of elliptical and spiral springs with the movable and stationary frames, if it be shown *by proofs* that they operate in the same manner as the combination of such springs in the letters patent in suit, notwithstanding the addition of the tension spring by defendants, upon which they relied as differentiating the defendants' trucks from the truck of the patent in suit.

Even if claims 1 and 2 are held to be subject to a limitation to subsequent compression, your petitioners aver that they can establish by proof:

1. That all defendants' trucks *have* the element of subsequent compression of one set of springs as is found by the court below in these words:

> "In the car trucks of the defendant both sets of springs are brought into action and begin to compress simultaneously *when the weight upon them is greater than the normal weight of the car.*"

That is, *one set* of defendant's springs *take the weight* up to a point and *after that*, and not till then, the other set begins to compress.

(2) That it *makes no difference in practice* as to which set of springs is subsequently compressed;

(3) That the twelve spiral springs of defendants' "Extra Long" truck and the eight spiral springs of their "Excelsior" and "Standard," respectively, are necessarily stronger than the four elliptical springs on those respective trucks, and therefore their spiral springs are their *main* car springs:

(4) That the defendants have advertised that their *spiral* springs are each of greater carrying capacity than each of their elliptical springs, and, therefore, for this reason their spiral springs necessarily constitute their *main* car springs.

14. As above averred, claims 1 and 2 were the only claims in issue on the motion for a *preliminary injunction*, although the bill of complaint avers infringement of the letters patent broadly, covering all the claims. That motion was limited to those claims because it was clear that the trucks which the Peckham Company was advertising in the trade journals and selling, infringed upon those said claims, either as they had been adjudicated by Judge *Shipman*, or as they read. Your petitioners therefor claim a right to be heard upon other claims, the validity of which was established by Judge *Shipman*, and to offer *proofs* at final hearing that such other claims have been infringed upon by the defendants.

The petitioners are advised that the fact that they moved for a preliminary injunction only upon claims 1 and 2 (because the infringement of those claims could most easily be shown from the Peckham Company's advertisements in trade journals) ought not, in justice, to preclude them from proceeding with the cause for the purpose of showing that other claims of the patent have been infringed by the defendants' truck structures. Of this obvious right your petitioners have been entirely deprived by the decree of the court below.

The petitioners therefore claim the right to show by proofs that claims 9, 10, 11 and 14 (sustained by Judge Shipman), and especially claims 9 and 10, are infringed. Of these, claim 9 covers the subsequent compression of either set of springs, which applies to all the defendants' trucks, and claim 10 covers the subsequent compression of the end springs, which applies to their "Standard" and "Extra Long" trucks. The court below, as just stated, has found that all defendants' trucks have the element of subsequent compression.

15. The defendants' evidence as to the construction and mode of operation of the defendants' trucks consists of *ex parte* affidavits which (under the practice in said Circuit Court, relating to motions for preliminary injunction) were not served on complainants' counsel *till the hearing* of the motion for a preliminary injunction and to which complainants (under the same practice) were not permitted to reply by rebutting affidavits. These affidavits purported to give, at great length, the results of certain alleged experiments conducted by the affiants for the purposes of this case, in order to show the mode of operation of the Peckham Company's trucks and were *largely relied upon* by counsel for the purpose of differentiating the defendants' trucks from the truck of the patent in suit. The defendants contended that these experiments established (as stated in their printed argument below), that "the defendant's (Peckham) structures differ radically both in construction and in mode of operation from that of the patent in suit."

The petitioners claim the right to cross-examine the said affiants as to the nature of the said experiments; as to their results; and as to the opinions of the affiants based thereupon and set forth in their said affidavits; and also claim the right to offer *proofs* on their own behalf in denial of the statements of such witnesses.

16. The opinion of the court below, in which it struck down this important and valuable patent already fully sustained by Judge *Shipman*, is based almost entirely upon the Peckham patent, 419,876. The Manier patent, 409,993, though considered by it, was really given no special weight. The Manier patent does *not* show a *combination* of spiral and elliptical springs, but merely an *alternative* use of one or the other class. The court below found that in view of this Peckham patent, and largely of that alone, there was no new mode of operation or new result produced by the Brill combination of

springs. Inasmuch as Judge *Shipman* in the *Third Avenue* case held, in the most emphatic language, that this Peckham patent was irrelevant, and pointed out that the defendant's expert in that case had not even referred to it in his direct examination as one of his "best anticipations," and as Judge *Shipman*, sitting in the same Circuit Court, had sustained claims 1 and 2 broadly *notwithstanding this Peckham patent*, the complainants in this case at bar did not, under the practice of that court on a motion for a preliminary injunction, introduce any evidence as to the working of the device of this Peckham patent. They now claim that they are entitled to proceed in the ordinary course of equity to show by proper evidence that the construction and mode of operation of the truck of this Peckham patent are radically different from those used by Brill and shown in the patent in suit and in the defendant's infringing trucks, *not so much because* Peckham shows a *semi*-elliptical spring, but because there are neither elliptical nor semi-elliptical springs in the Peckham patent *located between extended sections of the upper chords and the side beams to support the car body at each of its four corners;* but on the contrary each of the two semi-elliptical springs in this Peckham patent is carried across the truck *transversely*, so that these semi-elliptical springs are in contact at their middle point (which point is also in the *longitudinal center line of the truck*) with a supplementary transverse truss at the front and rear ends of the car body, and the ends of the semi-elliptical springs play *loosely* in shoes on the side beams. The combination of claims 1 and 2 of the patent in suit is therefore in no way present in, or suggested by, this Peckham patent.

The petitioners claim also that they are entitled to show further that this Peckham patent is a mere paper patent; that it was taken out by one of the defendants (Peckham) in connection with the business of the defendant Peckham Company, or its predecessor in the business;

that not a single truck has ever been made or used in accordance with it; and that, on the contrary, the defendant Peckham corporation, in all three types of trucks here complained of as infringements, combines with spiral springs four full elliptical springs *located between the extended sections of the sides* of the upper chords and the side beams, *precisely as in the Brill patent in suit;* and neither Peckham nor the Peckham Company, defendants, nor the predecessor Peckham corporation, with both of which corporations he has been continuously connected, have ever used the *transverse* semi-elliptical spring of this Peckham patent.

Your petitioners also claim that they are entitled to show by practical testimony that there is a vital difference between the location of the elliptical springs of the complainants' and defendants' trucks, on the one hand, and the location of the semi-elliptical spring of this Peckham patent on the other hand, and that not only had Peckham, in this patent, no notion of the utility of combining the elliptical and spiral springs *as in the Brill patent in suit*, but also that the construction shown in that Peckham patent was not practical or *capable* of actual use in the business. Also, they are entitled to show other features which distinguish the construction of this Peckham patent from that of the Brill patent, and that it has not even the elements of the claims of the patent separately considered. For example, in the Brill patent, as in the defendants' infringing trucks, the side beams or "stationary frames" are mounted upon the axle-box saddles. As Judge Shipman said:

> "In the patented structure, a pair of *rigid* longitudinal side beams, which derive their support from the axle-boxes, extend lengthwise of the truck beyond the wheels at each end."

On the other hand, the Peckham patent shows the side beams pivotally connected with and swinging below the axle-

boxes so as to be able to swing back and forth longitudinally —a perfectly useless construction which has never been used at all and one which would destroy the efficiency of all the springs connected therewith, and there are other important practical differences. In fact, the truck of the Peckham patent *is an entirely different structure*, as well as of no practical use, and never has been put into practice.

An electric car truck is a structure, the practical utility of which can be ascertained only by actual experiment under the usual conditions of electric railway practice. Loaded with many tons weight of car body and passengers and motors; run at high speed; requiring to be so constructed that the motor can be properly and efficiently mounted on it, actual use and experience alone, and not mere inspection of a paper truck are the only test of practical utility. Your petitioners submit that they should not be *deprived of the substance of their patent* until they at least have an opportunity to offer proof in relation to this Peckham patent, and to cross-examine the defendants' witnesses if they attempt to controvert this proof. Such proof was not required in the *Third Avenue* case, because the testimony for the defendants therein did not seriously urge that this Peckham patent anticipated the Brill patent. And it was not seriously considered by the Circuit Court of Appeals at the argument, the Court then stating to counsel, in effect, that it was not of importance and that no argument need be made upon it (or upon the Manier patent).

17. Your petitioners further show that they were not adequately heard by either the Circuit Court or the Circuit Court of Appeals. In the former court at the hearing on the motion for a preliminary injunction, the defendants' affidavits were (under the practice of that court) filed at bar and were never previously thereto served upon or exhibited to the com-

plainants' counsel; and, under the same practice, the complainants were not permitted to reply thereto by counter-affidavits. In the Circuit Court of Appeals (under the practice of that court) but an hour was given to counsel for the present petitioners (then appellees), of which, after the necessary opening of the mere facts of the case by one of the appellees' counsel, not fifteen minutes remained for argument by the other counsel upon the real questions involved.

Your petitioners submit that if every appeal on the granting of a preliminary injunction is to be, or may become, a final hearing of the cause, rules of court or practice which provide for the hearing of such motions without requiring the defendant to serve his affidavits upon the complainant prior to the hearing, and which do not permit the complainant to file rebuttal affidavits; and which, on appeal, restrict the argument of counsel for complainant in an important case to one hour, may well lead to a denial of justice. The hardship is especially great in the case at bar where the undisputed evidence is that the patent is a most meritorious one and is one which, as Judge Shipman has found, in a most important art, was almost a complete remedy for a serious evil, and had been "universally adopted" in the street railway business, a business of enormous importance and magnitude. And in this important business it is obvious that the truck or running gear which sustains the great weight of the car and passengers; carries the heavy motors and their gearing; and, generally, stands the brunt of the work, is the most important element. This record shows that, until the Brill patent, four-wheel electric railway cars (*and they were the only kind then in use*) could not, on account of oscillation, be run fast enough to accomplish a commercial success.

18. Your petitioners are advised that the decree directing the bill to be dismissed, made upon a record in which the complainants had not been permitted to offer rebutting affi-

davits, was, under the circumstances of this case, contrary to the due course of proceedings in equity and deprived the complainants of valuable property contrary to law.

19. The Record in this cause contains affidavits on behalf of the complainants which show that the patentee fully conceived and completed the invention of the patent in suit as early as May, 1889. This was *prior to the date of both the Manier and Peckham patents*, relying upon which patents the court below dismissed the bill of complaint. These patents were dated as follows:

Manier, August 27, 1889.

Peckham, January 21, 1890.

If the above date of the conception of the invention of the patent in suit be established, your petitioners are advised that these two patents (Manier and Peckham) are irrelevant to the issue. The evidence was not considered of importance by Judge Shipman for the reason that he considered that neither of these patents imposed any limitations upon claims 1 and 2.

20. Your petitioners submit that it would be an intolerable hardship and injustice to them if they should be finally deprived of the opportunity to present testimony on their own behalf and also to cross-examine the defendants' witnesses upon the following issues, among others, namely:

I. The actual construction of the defendants' various trucks as they have made and sold them from the time they began to manufacture trucks containing the combination of spiral and elliptical springs of the patent in suit.

II. The actual operation of the defendants' devices as compared with the devices of the patent in suit.

III. The question whether defendants' devices do, *in fact*, infringe claims 1 and 2, if said claims are to be limited as held by the Court below.

IV. The question whether defendants' trucks do, *in fact*, infringe other claims of the patent in suit (e. g. claims 9, 10, 11 and 14, which have been sustained by Judge *Shipman*).

V. The question how the devices of the Peckham patent, No. 419,876, would operate, if used, and whether they necessarily limit the complainants' patent in the manner adjudged by the Circuit Court of Appeals.

VI. That the devices of the said Peckham patent were and are, *in fact*, incapable of practical use, and that they were never in fact used.

VII. The question whether the complainants' invention antedates the said Peckham and Manier patents.

VIII. The utility and value, as well as the wide adoption and use, of the combination of claims 1 and 2 of the patent in suit, consisting essentially of spiral and elliptical springs combined with the side beams and movable frames of a car truck, the said elliptical springs being of slower action and of a different period of action from the spiral springs, as showing patentable quality in the invention, regardless of the relative times at which one spring or the other comes into use.

IX. That the defendants' trucks are *not*, as claimed by the counsel for defendants, the Peckham Company, in his argument against the petition for re-hearing in the court below, "radically different, both in construction and mode of operation from that of the patent in suit," such allegation being based upon *ex parte* affidavits relating chiefly to certain alleged experiments conducted by witnesses for the very purpose of this case, to which affidavits your petitioners were not permitted to reply in the Record now before the Court.

21. Your petitioners are advised that the ruling of this Honorable Court in the case of *Mast, Foos & Co.* vs. *Stover Manf'g Co.*, 177 U. S. 485, is not an authority for the action of the court below in decreeing the dismissal of the Bill of Complaint; that the said ruling was, by the language in the opinion

of this court, limited to cases in which the entire merits of the case are before the court, on undisputed and indisputable facts, without "suggestion of further proofs" on any part of the case; and that the circumstances of the case at the bar as stated in this petition, place the case entirely outside of the operation of the said ruling.

22. The decision of the Circuit Court of Appeals is of vital and far-reaching importance in the administration of the law in all the circuits of the Federal judiciary. Its importance goes far beyond the decision upon the particular case, and affects, or may affect, numerous future cases of motions for preliminary injunctions on patents. It relates to a rule of practice—*administrative* law— of much wider applicability than mere cases of *substantive* law, in which only the rights of the actual litigants are concerned.

If, as your petitioners are advised, the court below has misunderstood the scope of the ruling in the Mast, Foos & Company case and has applied it to a state of facts never contemplated by the decision of this court in that case, your petitioners submit that the interests of justice require that this court shall, by its authoritative ruling, define the limitations which it places upon the application of the doctrine of that case, to the end that in the numerous cases which may arise, the Circuit Courts of Appeals shall not extend the doctrine beyond its proper and just scope.

23. And if it appear to this Court that "sufficient weight" was not, under the circumstances, given by the court below to the Rule of Comity, your petitioners submit that the error of the Court below should be corrected, under the supervising jurisdiction of this Court.

Wherefore, in view of the premises, the petitioners pray that this Honorable Court will grant its writ of *certiorari* directed to the Circuit Court of Appeals for the Second Cir-

cuit, requiring that the record of said cause in the said court be certified to this court, and that this Honorable Court will thereupon proceed to correct the errors complained of, reverse the said decree and remand the said cause with directions to affirm the decree of the said Circuit Court awarding an injunction, and to direct the said Circuit Court to permit the cause to proceed to final hearing in accordance with the due course of equity, and will give to your petitioners such other and further relief as the nature of the case may require, and to the court may seem proper in the premises.

FRANCIS RAWLE,
for Petitioners.

FREDERICK P. FISH,
Of Counsel.

STATE OF PENNSYLVANIA, }
COUNTY OF PHILADELPHIA, } *ss.*

Before the undersigned, a notary public, personally comes JOHN A. BRILL, who, being duly sworn, deposes and says that the matters stated in the foregoing petition for a writ of *certiorari* are true as therein set forth, to the best of his knowledge, information, and belief.

JNO. A. BRILL.

Sworn and subscribed to before me this Twenty-fourth day of October, A. D. 1901.

HENRY C. ESLING,
Notary Public.

[SEAL.]

Commission expires January 20, 1903.

IN THE

Supreme Court of the United States

October Term, 1901. *No.*

JOHN A. BRILL AND THE J. G. BRILL COMPANY,
Petitioners,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, *et al.*,
Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT.

ARGUMENT FOR PETITIONERS.

John A. Brill and the J. G. Brill Company, the Petitioners herein, respectfully ask for a writ of *certiorari* directed to the United States Circuit Court of Appeals for the Second Circuit.

The reasons for invoking the supervising action of this Court are as follows:

This cause was heard in the Circuit Court for the Southern District of New York upon bill and injunction affidavits on behalf of the complainants, and answering affidavits on behalf of the defendants. Under the rules of practice in that court, the defendants' affidavits were not filed or served upon the complainants' counsel until the argument began, and the com-

plainants were not permitted to present rebutting affidavits. It appeared that a previous suit upon the same patent here in controversy (*Brill* vs. *Third Avenue Railroad Company*) had been heard by Judge Shipman upon a long and elaborate record, and that the learned Judge had sustained the patent in suit and claims 1, 2, 9, 10, 11, 12, 14 and 27 thereof. The Circuit Court, it appearing that *no new matter* was set up as a defence that had not been presented in the prior case before Judge Shipman, and that the interpretation placed by Judge Shipman upon claims 1 and 2 (upon which alone the motion for a preliminary injunction on this case was made) undoubtedly settled all the questions of infringement, ordered a preliminary injunction to issue upon claims 1 and 2, staying its operation, however, pending an appeal if taken within five days. Upon appeal, the Circuit Court of Appeals for the Second Circuit, though not denying that Judge Shipman's interpretation of those claims *fully covered the trucks of the defendants* in this case, held that "it was not necessary in that case (before Judge Shipman) to define accurately claims 1 and 2;" proceeded to consider them afresh, though the defence set up was precisely the same as in the prior case before Judge Shipman, placed a different construction upon them from that of Judge Shipman and made an order reversing the decree of the Circuit Court and directing that a decree be entered dismissing the bill of complaint. The court below based its decree solely upon the case of *Mast, Foos & Co.* vs. *Stover Manfg. Co.*, 177 U. S. 484.

The petitioners deem themselves aggrieved by this decree, and seek a writ of *certiorari* to correct it, for the following reasons:

I. *The doctrine of the Mast-Foos case does not apply to the case at bar.*

II. *The court below should have affirmed the decree of the Circuit Court under the "Rule of Comity," upon the prior adjudication of Judge Shipman.*

I. *The Mast-Foos case does not apply.*

We submit that the doctrine of that case was entirely misapprehended by the court below and that its application to the facts of the present case was error. We submit that there is no resemblance between the facts of this case and of the *Mast-Foos* case, except that both cases arose upon motions for a preliminary injunction which had been granted in the Circuit Court, and that in both cases the Circuit Court of Appeals reversed the decree of the Circuit Court, and directed a decree that the bill be dismissed.

In the *Mast-Foos* case the patent in suit related to the use in a windmill of a simple mechanical gear device as old as mechanics. When the record came before the Circuit Court of Appeals in that case there was no single *fact* in dispute. It was not denied that the merits of the case were fully before the court—as fully as they could ever be. The sole contention of the complainant whose bill had been dismissed appears from the following specifications of error in the petition for a writ of *certiorari:*

> "That it was error of law for the Circuit Court of Appeals for the Seventh Circuit to *dismiss this bill.* . . . . upon mere *ex parte affidavits;* which decision . . . . was rendered without a trial 'according to the course and principles of courts of equity.'"
>
> "That it was error of law for the Circuit Court of Appeals for the Seventh Circuit to make this *final* decision on the *merits* without affording your petitioner the right of trial on evidence in chief and in rebuttal, taken by the examination and cross-examination of witnesses, as provided in Rules 67, 68, etc."

And in the brief on behalf of the petitioner in that case the same grounds for the writ were set forth:

> "The dismissal of the bill of complaint on such *ex parte* affidavits in such interlocutory proceeding on appeal

from the Circuit Court granting a preliminary injunction; 'such dismissal of the bill for want of equity under such conditions depriving the petitioner of the right of trial of its cause.'"

The brief proceeded as follows:

"Upon these facts, two questions of law arise for determination by this Court, to-wit: (1) was the dismissal of the bill right or wrong? And (2) is the so-called 'rule of comity' between the Federal courts to be maintained or not?"

No other questions than the above were raised in the argument for the petition.

The Transcript of Record in the cause shows that the entire evidence for the defendants consisted of a large number of letters patent, together with evidence of what is referred to in the opinion of this Court as the Perkins Mill, as to which the facts were undisputed. The prior art set up in the case was different from that set up in the prior adjudication and, therefore, the Rule of Comity was not applied.

In the opinion sustaining the decree of the court below ordering the bill to be dismissed, this Court most carefully defines the class of cases in which it is proper to dismiss a bill upon an appeal from a decree awarding a preliminary injunction. We quote from the opinion of this Court in the *Mast-Foos* case:

"Does this doctrine apply to a case where a temporary injunction is granted *pendente lite* upon affidavits and immediately upon the filing of a bill? We are of opinion that this *must be determined from the circumstances of the particular case.* If the showing made by the plaintiff be *incomplete;* if the order for the injunction be reversed, because injunction was not the proper remedy, or because under the particular circumstances of

the case, it should not have been granted; or if other relief be possible, notwithstanding the injunction be refused, then, clearly, the case should be remanded for a full hearing upon pleadings and proofs. But if the bill be obviously devoid of equity upon its face, and such invalidity be incapable of remedy by amendment; or if the patent manifestly fail to disclose a patentable novelty in the invention, we know of no reason why, to save a protracted litigation, the court may not order the bill to be dismissed. Ordinarily, *if the case involve a question of fact*, as of anticipation or infringement, we think the parties are entitled to put in their evidence in the manner prescribed by the rules of this court for taking testimony in equity cases. But if there be nothing in the affidavits tending to throw a doubt upon the existence or date of the anticipating devices, and giving them their proper effect, they establish the invalidity of the patent; or if no question be made *regarding the identity of the alleged infringing device*, and *it appear clear that such device is not an infringement*, and no *suggestion* be made of *further proofs* upon the subject, we think the court should not only overrule the order for the injunction, but dismiss the bill."

It appears, therefore, that the doctrine *does not apply:*

"If the showing made by the complainant is *incomplete.*"

"If the case *involve a question of fact*, as of anticipation or infringement."

If any "*suggestion* be made of *further proofs* upon the subject" of infringement.

The limitations to be placed upon the rule can be inferred with equal clearness from the three cases cited by this Court, as the authority for the rule of practice then laid down by it. They were the following:

Gardt vs. *Brown*, 113 Ill. 475.

This was a bill filed by the owners of real estate to restrain the closing up of a certain door. The complainant procured a temporary injunction. On answer filed, there was a motion to dissolve the injunction, which was heard on bill, answer and affidavits, and an order was entered dissolving the injunction and dismissing the bill. The Supreme Court in its opinion said:

> "It is urged that the Court, on dissolving the injunction, should have retained the bill for a hearing on evidence. We are unable to perceive any reason for doing so, because *the bill on its face discloses no equity*, and unless it had been amended it would have been useless to retain it for any purpose. The bill, as framed, involved only the construction of the deed and lease, and *that arose on the bill.* It was, therefore, improper to retain the bill, as to have done so would only have resulted in increased costs. Appellants have treated the decree as final, and had they not, their appeal would be as dismissed. The circuit court judge who tried the case made this order: 'The order is, that the injunction be dissolved; and further, if complainants desire to take an appeal, that the bill be dismissed.' It was then *optional with appellants* to have the bill retained or to consider it as dismissed, and having made the election they must be held to their choice."

Green vs. *Mills*, 35 U. S. App. 383; 69 Fed. Rep. 852.

This case went no further than the Illinois case just cited. It was in substance a *political* bill "brought to restrain the registering officer from discharging the duties imposed upon him by law by which these complainants and others similarly situated might be deprived of a political right."

Chief Justice Fuller said, in dismissing the bill:

"We repeat that the action sought to be enjoined is *political and governmental*, and it is not pretended that any right of property or civil right is threatened with infringement thereby.

"This being so, we are clearly of opinion that *no ground of equitable cognizance exists*, and, although the appeal is from interlocutory orders, yet, *as we entertain no doubt that such a bill cannot be maintained*, we are constrained, in reversing these orders, to remand the cause with a direction to dismiss the bill."

Knoxville vs. *Africa*, 47 U. S. App. 74; 77 Fed. Rep. 501. This was a bill to settle the right of Africa, who was engaged in the operation of an electric street railway in the City of Knoxville, to extend his railway and occupy three unoccupied streets of the city. The Circuit Court granted a preliminary injunction upon bill, answer, exhibits and *ex parte* affidavits filed in support of the bill. On appeal from the preliminary injunction, the Court of Appeals for the Sixth Circuit was of opinion that the complainant, *by his own showing*, had no right under the law to occupy the streets in question, and that as the question was one of law and was *fully presented by the record*, the case should be decided upon the merits and if found to be with the defendant, the bill should be dismissed, and this was ordered to be done. The ground upon which this was done is more fully stated in the opinion of Lurton, C. J., rendered upon a petition for rehearing. He says (77 Fed. Rep. 511):

"The appeal was from an interlocutory injunction. So far as the propriety of that injunction depended upon the validity of the ordinance of January 11, 1876, *we were in possession of a complete record*, and *could do full and final justice by determining the matter of law* upon which the street rights claimed under that grant depended."

But a *rehearing was granted* upon the ground that the court had failed to take notice of the *fact* that Central Avenue and Crozier Street were one and the same street, and that an insignificant portion of Central Avenue was not under the actual occupancy of the complainant, the court holding that the "record is not in such a condition as to justify a *final disposal* of the questions of *fact* upon which the ultimate rights of the parties must depend." The order dismissing the bill was revoked and the cause was permitted to proceed to final hearing.

It may be confidently urged that there is nothing in any of these three cases which in the slightest degree sustains the application of the doctrine of the *Mast-Foos* case to the case at bar. The cases of *Gardt* vs. *Brown* and *Green* vs. *Mills*, were obviously bills upon which a demurrer would have been sustained, and the courts in both cases substantially so treated them. In *Knoxville* vs. *Africa* it appeared that the complainant showed, by his own affidavits, that, as a question of law upon *undisputed facts*, he had no equity under his bill.

It may be pointed out that the doctrine of the *Mast-Foos* case is merely a similar rule to that under which a patent bill may be dismissed on demurrer. But the cases where this has been done *are few* in the books. In most of the reported cases it has been refused, and it will always be refused, "If *doubt* exists . . . if the faults pointed out by the defendant *may, by any chance, be cured by proof;* if, in short, *there be a possibility* that the complainant *may* succeed (*Electr. Co.* vs. *Winton Co.*, 104 Fed. Rep. 814).

We submit, therefore, that upon the language of the opinion of this Court in the *Mast-Foos* case, upon the facts of that case, and upon the authorities cited by this Court in support of the doctrine there announced, the rule in that case will not be applied unless it appears that the *entire merits* are before the Court of Appeals, that the complainant has fully proved

all the facts which are relevant in support of the bill of complaint, and that no fact alleged on behalf of the defendant is disputed; or, to state it in the language of this Court, if there is "any suggestion of further proofs," the rule cannot be applied.

The petition fully sets forth the questions of fact as to which the "showing made by the complainant is incomplete," and as to which they claim the right to adduce proofs and to cross-examine the defendants' witnesses. A summary of such matters will be found on page 21 thereof. Without repeating them here, the attention of this court is called thereto. Upon them we submit that this case falls far outside the class of cases intended to be covered by the *Mast-Foos* case.

Another important difference exists between the facts of the *Mast-Foos* case and of the case at bar, which has an essential bearing upon the case. In that case the complainant was served with the defendant's affidavits and was permitted to reply to them by counter-affidavits which were read at the hearing. In the case at bar, under the practice of the Circuit Court for the Southern District of New York, the defendants were not required to serve their affidavits upon the complainant prior to the hearing, and, consequently, the complainants were not permitted to present counter-affidavits. These rules of practice have long been in force, it is believed, in that court. They may have been proper rules of practice originally, though their propriety is not obvious, but, in view of the doctrine that the Circuit Court of Appeals has jurisdiction to dismiss a bill upon an appeal from the granting of a preliminary injunction, their propriety may be very seriously doubted. It is, perhaps, not going too far to say that it would be difficult to imagine a case where the complainant's bill could be *justly* dismissed upon an appeal from the granting of a preliminary injunction at the hearing of which the complainant was de-

barred from filing counter-affidavits in reply to the affidavits of the defendant. The orderly trial of causes by hearing first the evidence of complainant and then the evidence of the defendant and then the rebuttal evidence of the complainant, is so thoroughly fixed in our system of law that it would seem that so radical a departure from this method as was enforced against the petitioners by the courts below in this case, followed by the dismissal of the bill, amounts of itself to a denial of justice as commonly administered in courts in the United States and England. We submit that the decree dismissing the bill was, for this reason alone, reversible error on the part of the court below, quite independent of all other considerations.

In this connection another fact is entitled to consideration —that not only was the defendant debarred, under the practice in the Second Circuit Court for the Southern District of New York, from presenting counter-affidavits in reply to the facts set up in the defendant's affidavits, but they were also, under the rules of the Circuit Court of Appeals for the Second Circuit, limited in the argument of the cause on appeal to a single hour, which was entirely inadequate for the proper and due argument of the cause. This limited time did not permit of any argument on the real merits of the case, and it may almost be said that the case was submitted without oral arguments—certainly without adequate argument commensurate with the condition of the record; the state of the facts involved therein; and the importance of the issues involved. It is not pretended, of course, that the imposing of such a limit to the argument of the cause was in itself in the nature of error, the Court having the undoubted right to make such rules as it may deem fit in the hearing of causes before it; but the fact has significance when considered in connection with the dismissal of the bill in this case in which it cannot be pretended that the complainants had their day in court to establish by

proof the *facts* necessary to sustain the averments of their bill or to present to the Court adequate arguments of counsel on their behalf.

It is submitted that the extension of the rule announced in the *Mast-Foos* case to the facts of the case at bar, would effectually put an end to the practice of motions for preliminary injunctions on patents.

It is certain that this would be an unfortunate result and would go far towards destroying the value of property in letters patent. It is certainly in the interest of justice and of the public that a patentee who has sustained the validity of his patent after a test case upon pleadings and proofs, fully and honestly contested, should have the full benefit thereof in a suit against another infringer. But under the ruling of the Circuit Court of Appeals in this case, it is believed that no litigant, under such circumstances, would venture to move for a preliminary injuction. No matter what facts the complainant might set up in his injunction affidavits, the defendant will ordinarily set up a counter statement of facts. The complainant, being debarred from presenting any counter-affidavits, would be bound by the statement of facts in the defendants' affidavits quite as fully as if he had admitted their truth, and, on appeal, would go to what might be made a final hearing upon a record made up in this one-sided manner.

II. *The court below did not give "sufficient weight" to the Rule of Comity, and therefore the decree was reversible error.*

The proper scope of the "Rule of Comity" and its application by Circuit Courts of Appeal is stated in the opinion of this court in the *Mast-Foos case*. We submit that the present case, as presented to the Circuit Court of Appeals, was one in which the rule was peculiarly applicable and should have been applied, and that the refusal of the Court below, under the circumstances, was reversible error.

The adjudication of Judge Shipman, sustaining the validity of the letters patent, was made after a long and arduous litigation, ably contested at every point; and more than that, it was made by the Circuit Court for the Southern District of New York, in which the present proceedings were pending. There was no alleged anticipating device before the Circuit Court in this case which had not been fully considered and disposed of by Judge *Shipman;* therefore the validity of the patent was not open on the question of a preliminary injunction. Nor was the *question of infringement open*, because the scope of claims 1 and 2 had been defined by Judge Shipman in terms which clearly covered the infringing trucks of the present defendants. Judge Lacombe so held in the following words in awarding a preliminary injunction:

> "The only question presented is whether defendants' structure infringes. That involves the construction of the claims declared on and for the purpose of this motion the construction already adopted *by this court* on final hearing in the Third Avenue case should be followed, for there is no prior patent, no prior use proved here which was not before Judge Shipman. * * * The combination *which Judge Shipman described as the gist of the invention is undoubtedly in defendants' structure.*"

In *Mast, Foos & Co.* vs. *Stover Mfg. Co.*, it was said by this Court:

> "Comity, however, has no application to questions not considered by the trial court, or, in patent cases, to alleged anticipating devices which were not laid before that court. * * * It is scarcely necessary to say, however, that when the case reaches this court we should *not reverse the action of the court below* if we thought it correct upon the merits, though we were of opinion it had not given sufficient weight to the doctrine of comity."

This seems to imply a rule that in a *proper case* this Court *will* reverse a Circuit Court of Appeals for a failure to apply the doctrine, unless it appears that that Court was correct upon the merits.

We submit that the case at bar is such a case; that "sufficient weight" was not given to the doctrine of comity by the court below; and that for this reason also the petitioners are entitled to a writ of *certiorari* in order that they may be heard in this Court on the question as to whether the refusal of the court below to enfore that doctrine was reversible error.

The Rule of Comity and its application to a proper case in aid of a patentee who has already established the validity of his patent, is a matter of general importance in the *administration* of justice throughout the country. The question is constantly arising in a great number of cases. It is essential in the interests of uniformity in the various circuits that the extent of the rule should be defined by an authoritative decision of this court. The constitution of the Federal Courts with nine separate and equal appellate tribunals, a system hitherto unknown in any English-speaking country, seems to render this absolutely necessary. Unless they act under some rules by which there is at least an attempt to secure uniformity of decision, the uncertainty will be intolerable and the system will break down. This was recognized in *Columbus Watch Co.* vs. *Robbins*, 148 U. S. 266, where it was held that the fact that diverse judgments had been rendered in two Circuit Courts of Appeals under the same conditions "might furnish ground for *certiorari*."

It is conceded that the chief function of a final Court of Appeal is to preserve uniformity of law rather than to do justice between man and man; and it was for this reason that a general supervision over the nine Circuit Courts of Appeal was retained in this court by the Act of 1891—to be exercised by it in questions which it might deem of general

importance. Necessarily, questions of *administrative law*, such as arise here, must be of general importance. The same considerations which induced this court to supervise the lower court in the ***Mast-Foos*** case will, we submit, induce it to supervise the present case and correct the misapplication of the doctrine of that case, if it shall so consider it.

The Rule of Comity had been carefully laid down by the *court below itself*, as recently as February, 1900, in *Consolidated Fastener Co.* vs. ***Hays***, 100 Fed. Rep. 984, where it said:

> "Shortly after its organization this Court had occasion to enunciate the proposition that, where there was an appeal from an order granting preliminary injunction, the Court below having followed an adjudication at circuit sustaining the patent after contest upon pleadings and proofs, such adjudication is to have the same weight which it should have before the Circuit Court. . . . The propriety of some such rule is apparent. The prior adjudication has been secured by complainant on testimony which has been sifted by cross-examination, and it would seem that he should be entitled to cross-examination of defendant's experts before being deprived of the advantage of his previous decree. Especially so in view of the ease with which *ex parte* affidavits of experts exploiting any theory desired may apparently be obtained. This practice has been ever since adhered to by this Court.
>
> "In Fastener Co. *vs.* Littauer, 28 C. C. A. 133, 84 Fed. 164, we quoted from the Paper-box case, *supra*: 'The adjudication upon which the motion for preliminary injunction was based, not being the subject of the appeal, is to have the same weight which it should have before the Circuit Court . . . . in the absence of some controlling reason for disregarding it,' and added:

"'No such controlling reason is shown here. No prior patent or prior use or prior publication, having an important bearing upon the validity or construction of the patent, and which was not before the court in the Columbian Company case, is now presented; no new authority on patent law is now first cited; there is nothing to show an improvident exercise of legal discretion by the circuit judge; and, apparently, this is an *effort to review the decision in the Columbian case at final hearing* upon a *partial presentation* of the evidence then considered, and without the *cross-examination*. There is *no warrant for such practice*, which was *expressly condemned* in American Paper-pail & Box Co. *vs.* National Folding Box & Paper Co., *supra*.'

"It has seemed desirable once more to restate this rule of practice, since the appeal here seems to have been mainly *argued on the theory that the decision of Judge Colt was to be reviewed*, as if this were an appeal from that decision upon the record before him."

We submit that Judge Lacombe's view of the present case, when he heard the motion for a preliminary injunction, was correct and should have been sustained on appeal. Instead of doing so, the court below proceeded to review Judge Shipman's adjudication and practically reversed both it and the decree of Judge Lacombe.

It was, of course, entirely competent for the Circuit Court of Appeals for the Second Circuit to overrule its *well-established* comity *rule*, but we submit that where a litigant comes before a Court in that Circuit, in reliance upon its own rule, offers only proofs sufficient (and Judge Lacombe held in the Circuit Court that they *were* sufficient) to bring his case under that rule, it certainly seems a hardship to overrule it and then proceed to dismiss the complainants' bill for want of the very proofs which the settled practice of the court (and so Judge Lacombe held) rendered entirely unnecessary. Certainly it is

making the reasonable doctrine of the *Mast-Foos* case a weapon of destruction rather than an instrument of justice.

Among the cases cited in *Mast, Foos & Co.* vs. *Stover Mfg. Co.* at page 489, as being "well-considered cases" on the Rule of Comity, is the following:

Electric Mfg. Co. vs. *Edison Electric Light Co.*, 61 Fed. Rep. 834, where it was held:

> "Where the validity of a patent has been sustained by prior adjudication, upon final hearing, and after *bona fide* and strenuous contest, the matter of its validity upon motion for preliminary injunction is no longer at issue, all defense, except that of infringement, being reserved to the final hearing."
>
> "When, upon judicial contest, a competent court has sanctioned the grant and determined the right thereunder, the monopoly thereby granted ought not be permitted to be invaded except upon a clear showing that the decision invoked in its favor was wrong."

Of course, both the *validity* of the patent and *infringement* must clearly appear before a preliminary injunction can be granted. But both did appear beyond question in this case. Judge Shipman in his prior adjudication upon this patent in the Circuit Court for the Southern District of New York *had accurately* and *precisely* defined the scope of claims 1 and 2 of the patent in suit before him and here in suit, and sustained them broadly, and it was *necessary to the decision of that case to do so*. There has never been any pretence in this case that the defendants' trucks do not infringe upon claims 1 and 2 as they were defined by Judge Shipman. And there has never been any pretence that they do not contain what Judge Shipman found to be the *gist* of the invention. Judge Lacombe so held in his brief opinion in the Circuit Court in this case.

But the opinion of the court below avoided the difficulty by *assuming* that "inasmuch as the infringing car trucks (in the *Third Avenue* case) embodied the combination specified in all the claims, it was not necessary in that case for the court to define accurately claims 1 and 2 in order to determine what, if any, limitations not expressed therein were to be read into them by implication."

In this statement the learned court was undoubtedly in error. This can be stated with certainty and can be *demonstrated* by a reference to the circumstances of the *Third Avenue* case. The defendants' *entire contention* there was as follows:

1. That *all* the claims, *including claims 1 and 2*, were limited to an arrangement of springs by which the elliptical springs came under compression subsequently to the spiral springs, and

2. That *their* trucks did not have this feature of subsequent compression, *in fact*, and therefore they did not infringe any claims. But Judge Shipman *negatived* both positions. He held that claims 1 and 2 covered the *gist* of the invention and were for the combination of elliptical and spiral springs in connection with the movable and stationary frames of the patent in suit; *i. e.*, that those claims are to be taken to mean what they said; and that claims 9, 10, 11 and 14 added the *minor* feature of subsequent compression of the elliptical springs. That we are correct in stating that Judge Shipman *did* accurately define claims 1 and 2 and it *was a necessary part* of the case before him to do so, is made clear by the fact that if he had found that claims 1 and 2 were to be limited by implication (as claims 9, 10, 11 and 14 were limited by their express language) to subsequent compression of the elliptical springs, the defendant in that case, whose truck springs were arranged for subsequent compression, could have entirely escaped the charge of infringement of any and all of the claims by merely placing a block between the top of

his elliptical springs and the movable frame so as to bring both sets of springs under compression at once.

It is perfectly clear, therefore, that Judge Shipman *did*, and *did* necessarily, "define accurately" claims 1 and 2.

And the same considerations show that the court below was equally in error in the reason it gave for assuming that Judge Shipman did not "define accurately" claims 1 and 2, viz., because the infringing trucks (before Judge Shipman) "contained the combination specified in all the claims." If this means that they *admittedly* "contained the combination specified in all the claims," counsel who prepared and argued the case can only say that the court is under a misapprehension as to the facts.

The error into which the learned court below has fallen in regard to this vital part of the case before it, with such disastrous results to the Petitioners, may be said, with great respect to it, to illustrate the danger of the injustice that may follow the application of the somewhat drastic rule of the *Mast-Foos* case to a case where the complainant who moves for a preliminary injunction upon a prior adjudication, is not permitted to file counter-affidavits, and is not adequately heard on appeal in the argument of his cause, and then deciding the cause upon an *assumption* that the court which made such prior adjudication did not mean what it said it meant in its opinion.

It may not be improper for the writer of this argument to express his thought in this connection in the language of a paper read by his colleague before the Section of Patent Law of the American Bar Association (Report of 1899, p. 651):

> "Moreover, in one circuit at least, the Rule of Comity is apparently to be ignored; so that it would seem that in this circuit, which covers a territory in which manufacturing interests have been developed almost to a greater extent than in any other part of the United States, a

patentee who has succeeded in establishing his patent in another circuit is to be treated as if his patent had not been sustained. It hardly seems possible that the doctrine of Comity should be generally ignored; but if it is not to be recognized in all the circuits as of practically *controlling importance*, the situation of a patentee will soon be even more intolerable than is the case at present. . . ."

"Theoretically, the situation is intolerable, and we must all agree that practically the patentee by no means gets that protection which the constitution and laws of the United States were framed to give him as a reward for his contribution to the progress of the useful arts."

As to the Merits of the Case.

We conceive that where a Circuit Court of Appeals has erroneously applied the rule in the *Mast-Foos* Case, this Court will not desire, on an application like the present, to consider at length the merits of the case that was before the lower court. The ground of the interference on the part of this court would in such case be that the complainant's *real case* was not before the Circuit Court of Appeals and, therefore, whether that Court was correct or not in their view of the *part of the case which was before them*, would not be important. We deem it proper, however, to make a brief argument in addition to the facts set forth in the petition now before this Court.

And we do this also because one ground of this application for a writ of *certiorari* is that the Court below did not give "*sufficient weight*" to the "Rule of Comity"—a ground upon which this Court has said that it would not reverse the Court below if of opinion that the Court below was correct upon the merits.

The invention of the patent in suit consisted essentially of spiral and elliptical springs combined with the side beams (stationary frames) and movable frames of a car truck, the elliptical springs being of slower action and of a different period of action from the spiral springs, the whole being intended to provide a simple and more efficient spring-support for a car and to lessen oscillation or galloping.

It is admitted in defendants' affidavits that an elliptical spring has a more *sluggish* action than a spiral spring. See, for example, Abbott:

> "It is true that, owing to the frictional contact between the leaves of an elliptic spring, or semi-elliptic, that *its action is more sluggish* than that of coiled, or, as they have been called in this case, spiral springs."

See, to the same effect, the defendants' affidavits by Fowler and Newbury. So the Brill patent says (p. 2, line 4):

> "The elliptical springs being *slower in their action* than the spiral springs."

It is for this reason that the combination of the elliptical with the spiral springs in the patented relation lessens or prevents the longitudinal oscillation of the car by breaking the rhythm. And this was what was considered by Judge Shipman "the gist of the invention."

A *subordinate* feature of the invention was described by Judge Shipman as follows:

> "The result of the minor invention of claims 9, 10, 11 and 14 was important, though, upon first inspection, its marked importance does not appear, but it perfected the general invention of the first two claims."

Claims 1 and 2 cover the *main* invention, and are commensurate with it. Claims 9, 10, 11 and 14 cover the *minor feature* of the invention.

When a car is placed upon the movable frames which are supported by the springs, the spiral springs are forthwith com-

pressed and bring the weight down to the elliptical springs, which, thereupon, come under compression. During the actual use of the loaded car both sets of springs support the weight of the car and its load and prevent longitudinal oscillation. Inasmuch as a car truck is a structure intended *for use under a load*, it must be considered from that standpoint. This explains why, in the drawing of a truck *without a car superimposed upon it* in the patent in suit, a space is shown between the top of the elliptical springs and the movable frames. As just stated, when the car is placed upon the truck this space is taken up and the weight is brought down so as to compress the elliptical springs. Any other mode of construction would be an absurdity. The object of using the two kinds of springs is to prevent oscillation, and they *cooperate* to this end in practical use.

This is shown by the following language of the specification (p. 2, line 120):

> "To this end I supplement the axle-box springs by placing elliptical springs of slower action between the extended portions or sections of the side beams and upper chord, and so arrange them in respect to each other that the elliptical springs will not come into play until after the axle-box springs have begun to compress."

Just *how heavy* the load must be before both sets thus cöoperate, is, of course, impossible to specify and the patent in suit does not attempt to specify, either in the language just quoted therefrom or in two other passages therein in which the expression "abnormal depression" of the car is used. This latter phrase clearly has no definite significance. The point is that one set of springs will come first into action with the load of the car and thereafter both sets will co-operate to support the weight and prevent or lessen oscillation.

Mr. Abbott, the expert witness for the defendants in this case, refers to the Brill truck as supporting the car body upon

the *spiral* springs "*when the car is empty or carrying a small load.*"

But we conceive that the proper distinction should be between the *car body* alone and a *loaded* car.

This view is supported by the affidavit of another of defendants' witnesses, Mr. Beetem, a practical railway man, who says:

> "In the trucks manufactured by the Brill Company the entire weight of the *car-body* is carried on the spiral springs."

The Court below found that the mode of operation of the defendants' trucks was the same. We quote the language of its opinion:

> "In the car trucks of the defendant, both sets of springs are brought into action and begin to compress simultaneously *when the weight upon them is greater than the normal weight of the car.*"

This is precisely the mode of operation which is shown by the passages from the patent and from Mr. Abbott's testimony which we have just quoted.

Claims 1 and 2 are for the broad combination of spiral and elliptical springs with the movable and stationary frames. That was Mr. Brill's real invention, and Judge Shipman has so found.

But the Court below considered the patents to Manier and Peckham and read the specifications in the light of those patents and held, contrary to Judge Shipman's decision, that claims 1 and 2 must be limited to a special construction in which the elliptical springs are not brought into action until after the spiral springs have begun to compress. We will therefore ask the attention of the Court to the Manier and Peckham patents, and to the specification in this connection.

The Manier Patent.

The Manier patent is not, as counsel for the defendant has frequently stated, for a *combination* of spiral and elliptical springs. One of the drawings shows spiral springs only and the other shows elliptical springs only. The Court below states that "this patent shows every element of the first claim of the patent in suit broadly considered, except the conjoint use of spiral and elliptical springs." The exception is *vital* and removes this patent from the need of further consideration. The learned court below finds that Manier "does not show a combination of the second claim." During the hearing below the learned court, after an inspection of this patent, stated to counsel that they did not consider it as of any importance.

Judge Shipman pointed out that Manier's only thought was the "mounting of the body springs forward of the axles," and that "the springs, or the kind of springs, which he was to use are no part of his invention." Judge Shipman further said:

> "Manier's invention was entirely apart from that of Brill and had no conception of its character. . . . Manier's invention was not designed nor adapted nor used for the performance of the function performed by Brill's device, nor was the way to accomplish Brill's result suggested by Brill's invention (*Topliff* vs. *Topliff*, *145 U. S. 156*)."

Manier was one of the entirely unsuccessful attempts made in the early days of electric street railway propulsion to remedy the pressing evil of oscillation. Of these earlier attempts Akarman speaks in his affidavit on behalf of the complainants and his statement was not disputed. He says:

> "This type of truck [the Brill truck] has gone into universal use under four wheel cars, and has substanti-

ally, if not completely, displaced all other constructions of car trucks."

The learned court below nowhere points out the extent to which it considers that the Manier patent imposes any limitation upon the broad invention of claims 1 and 2. It need not be further considered.

The Peckham Patent, 419,876.

In restricting claims 1 and 2 to a narrower scope than their terms import and than the original invention of the patentee and that given to these claims by Judge Shipman, the opinion of the Court below relies mainly upon the Peckham patent, 419,876.

It must be borne in mind that every presumption is against this Peckham patent disclosing a structure having the same mode of operation as the Brill combination of springs; for it appears that the Peckham, in all his three types of trucks here complained of as infringements (Record, p. 72), combines with the spiral springs full elliptical springs, *located between the extended sections of the sides of the upper chords* and *of the side beams; precisely as Brill did*, and *has not used* the transverse semi-elliptical springs of his own patent.

In fact, this Peckham patent is a mere paper patent. Neither Mr. Peckham in his affidavit describing various forms of car trucks used by defendant company, nor any other of defendants' witnesses, suggests that a single truck of the construction shown in this Peckham patent has ever been manufactured or sold by Mr. Peckham or either of the Peckham companies, *or used by any street railway company.* In fact, as is shown by the Record (p. 91), the Peckham Company continued up to 1895 to advertise car trucks supported by sets of *spiral* springs only; and it was after the issue of the Brill patent, and the wide adoption of the Brill invention,

that the Peckham Company began the use of its infringing constructions, and Peckham applied in 1894 and in 1895 for two patents, Nos. 555,530 and 563,685, which show the combination of spirals and full elliptics on the side beams, here complained of as infringements.

Judge Shipman held in the *Third Avenue* case, in the most emphatic language, that the Peckham patent was irrelevant because the construction "*has not the conjoint action of the patented combination, nor does it perform the function of the Brill device;*" and pointed out that defendants' expert in that case had not referred to this patent in his direct examination as one of the "best anticipations."

The Peckham patent (Figs. 4 and 5) *is radically different from that used by Brill and in the defendants' infringing truck, not so much because* it has *a semi-elliptical* spring, as because there are no elliptical or semi-elliptical springs *located between the extended sections of the upper chord and the side beams* to support the car body at *each of its four corners;* on the contrary, each of the two semi-elliptical springs is carried across the truck transversely, so that it contacts at its middle with a supplementary transverse truss at the front or rear of the car body, and its ends *play loosely* in shoes on the side beams.

And these sidebeams are only *loosely* hung from the axle boxes, and have themselves *longitudinal pivotal motion.* The corners of the car have no support, and the pivoted, loosely moving sidebeams furnish no substantial support for the semi-elliptic springs nor any for the motor, which is an essential requirement of modern electric street railway trucks. For these reasons the Peckham device was *not a modern truck capable of use.*

It is most significant, too, that this Peckham device was gotten up by one who, at the time, was a truck builder, and who, therefore, must have endeavored to put it on the market, and who would have done so if it had been capable of prac-

tical use, especially at a time when the real requirements of the business were none too well understood and the street car companies were all looking anxiously for a truck with which they could run their cars at the required speed.

The court below quotes in its opinion the words of the Brill patent (p. 1, lines 66-69), "*between the extended sections of the upper chord and the side beams* I place elliptical springs, which *preferably* extend *longitudinally* of the truck;" and, we submit, misinterprets that language. For that Court deduces from this passage the conclusion that "the circumstance that the semi-elliptical springs of the Peckham patent extend *transversely* instead of *longitudinally* is, therefore, immaterial." But the point of this passage in the patent is that the *four elliptical springs support the four corners of the car*, and are, therefore, *necessarily* placed "between the *extended sections* of the upper chord and the side beams." In this location *each of the* four springs may extend either *longitudinally* or *transversely*, although obviously, the longitudinal is the preferable position, as the patentee says. But Peckham's semi-elliptical springs are not between *the longitudinal extensions of the upper chords and the side beams at all;* each is between the two side beams and a transverse truss, and, therefore, each of the four corners of the car is left without any support, a construction which would be wholly inoperative in practical use. Judge Shipman had this distinction in mind where he states of the Peckham patent:

> "The upper beams are supported on *spiral* springs on the axle-boxes."

The distinction is not, as the Court below seems to suppose, *in which direction* the elliptical springs extend, but *where they are located.*

This matter of the *location* of the elliptical springs is mentioned over and over again in the Brill specification. For example, page 2, line 122:

"By placing elliptical springs of slower action *between the extended portions* or sections of the side beams and upper chord."

Line 130:

"The devices which secure the elliptical springs *between the side beams and the upper chord.*"

Page 3, line 26:

"The [elliptical] springs are *rigidly secured to the side beams.*"

Line 71:

"A portion of this action would be taken on the springs *supported on the ends of the side beams.*"

There is a vital difference between the location of the complainants' and defendants' elliptical springs, on the one hand, and the location of the semi-elliptical spring of the Peckham patent on the other. Not only had Peckham in his patent *no notion of the utility* of combining elliptical and spiral springs (as is evident both from the language of this patent and from his own subsequent conduct and patents), but the construction shown by him in Figs. 4 and 5 of this patent was not practical.

There are other features which distinguish the construction of the Peckham patent from that of the Brill patent, and prove that the former is not useful. We refer to a statement in regard to them in the petition.

All these considerations show why the Peckham patent was rejected by Judge Shipman after the fullest consideration, as not anticipating or imposing any limitation upon claims 1 and 2; why it was rejected by the Patent Office in reference to these two claims; why it was rejected by the defendants' expert witness in the *Third Avenue* case, who *did not even refer to it in his examination in chief;* why the able and experienced counsel for the defendant in that case relied upon it but slightly in their printed argument; why Mr. Abbott,

the defendants' expert witness in this case, barely referred to it in his deposition; and why the counsel for the defendants in this case paid slight attention to it in his argument. The real defence made by counsel in this case did not rest upon this Peckham patent, but upon the contention that oscillation in the defendants' trucks is overcome by the *tension spring* which the defendants use in their trucks, and that they use elliptical springs, not because they are useful to overcome oscillation (as to which purpose they courteously say they are a "*positive detriment*" to their trucks), but because they serve as a brace to prevent the side sway of the car body on the truck.

Furthermore, the learned counsel for defendants, in his brief handed up to the court below, expressly admitted that the overcoming of oscillation "*by so combining elliptical and spiral springs in a car truck that the rhythm of the one should overcome that of the other, is not foreshadowed in any way in either the Manier or Peckham patents.*"

Again, suppose even that the patentee, G. M. Brill, in conducting his experiments in 1889 (as all the street railway world were) towards a successful electric truck, had himself designed the truck of the Peckham patent, 419,876, and that it turned out a complete failure, was refused by the trade and was thrown aside (which was the fate of the Peckham device). Certainly such a failure would not invalidate a patent for a successful truck which he afterwards invented, which the trade immediately and *universally adopted*, and for which he applied for and received the protection of the patent laws.

Clearly, such a case would fall within the remark of Mr. Justice Brown in the Barbed Wire case: "In the law of patents, *it is the last step that wins.*"

When, in 1889, Mr. Peckham and Mr. Brill and the hundred other expert minds were struggling to devise a truck which would meet the vital requirements of the business, Mr. Peck-

ham hit upon the device of the Peckham patent, 419,876, and obtained a patent for it. He does not appear to have sold a single truck of this construction. It was not only an entire failure, but is demonstrated to be *incapable* of practical use. He appears not even to have advertised it, because at that very time he was advertising another type of truck, which he said "successfully solved the problem of oscillation." On the other hand, Mr. Brill, in 1889, (as his affidavit shows) devised his truck and patented it, and it met with immediate and universal acceptance upon its introduction in January, 1891. Mr. Peckham and his companies soon began to sell infringing trucks. When sued for infringment he assumes the position that his device of 1889, useless and never used, places such a limitation upon the *successful* invention of Mr. Brill that he can infringe upon the Brill patent in suit, and yet escape the penalty of his wrong doing.

The Language of the Brill Patent.

But it is urged by the defendants (respondents), and the court below appears to have accepted the theory, that if the complainants' case should be heard on proofs, still the language of the patent is such that all the claims must be limited to an arrangement of springs in which the elliptical springs are not brought into play till the spiral springs have been compressed.

We submit that this position is entirely erroneous for the following reasons:

1. Brill *really invented* the *broad combination* of spiral and elliptical springs in their patented relation, without regard to the *minor* element of subsequent spring compression. This is shown:

(*a*) By the position of his invention in the art. There is no real pretence of any anticipating patent but Peckham, 419-876, and it has been shown upon that that patent is entitled to no more consideration here than Judge Shipman

gave it in the *Third Avenue* case. It did not disclose the combination of claims 1 and 2 of the Brill patent nor their separate elements. It was not a practical device and taught nothing to the art. *All* the earlier devices, many in number, were useless to remedy oscillation and pounding. As soon as the Brill device was brought out, all other trucks were rejected and the Brill device was "universally adopted." The defendant Peckham Company, about 1892, *gave up all their earlier truck forms* and began to sell the Brill device, and they now advertise that up to 1900 they had sold 10,000 of them.

(*b*) Judge Shipman, after an arduous contest and full hearing in the *Third Avenue* case, sustained the broad construction of claims 1 and 2. He says:

> "The only remaining question is that of patentable novelty. It has already appeared that the *gist of the invention* is described in claims 1 and 2. The necessity for a remedy against the pounding of the car, the importance of the result, the adoption of the invention by experienced railway superintendents, the number of previous attempts at a remedy and the barrenness of their results go far to show that the work of an inventive mind was required and was active in the invention. The testimony of the defendant's expert itself, as he goes through the history of the art and thereby points out what the patentee's combination did, as compared with previous efforts to do something, shows that the patented improvement was patentable."

2. The patentee, having made the broad invention of the use of elliptical springs (of slower action and different periodicity) combined with quick-acting spiral springs, in the patented relation, described one method of applying the principle and claimed it *broadly* in claims 1 and 2, and claimed it *with the modification of subsequent spring compression*, in claims 9, 10, 11 and 14. He clearly comes within the rule of *Winans*

vs. *Denmead*, 15 How. 330, where it was held that, the "patentee, having described his invention and shown its principles, and claimed it in that form which most perfectly embodies it, is, in contemplation of law, deemed to claim every form in which his invention may be copied, unless he manifests an intention to disclaim some of these forms."

Brill, in fact, made the broad invention; he describes more fully one modification of it and he claims it broadly to cover its various modifications. We submit that his broad claims should not be cut down so as to take from him the *substance* of the invention and permit the defendant Peckham Company to escape infringement by 10,000 trucks which, as it cannot deny, were built upon the broad invention of Brill and in direct accord with claims 1 and 2 of his patent and which were built after the trade had universally adopted "Brill and rejected every other form of four-wheel truck."

3. Even if we admit (which we do not) that claims 1 and 2 are to be limited to *some degree* of subsequent spring compression, then we point out (1) that Brill is entitled at least to the credit of being the first to have made the combination of movable and stationary frames and spiral and elliptical springs in which *either* the spiral or elliptical springs are first compressed; and (2) that the court below *finds* that defendants' trucks *have* the element of subsequent compression of one set of springs. It cannot be argued that it makes any difference which set of springs are the last to compress. Claims 9 and 10 expressly negative this. Claim 9 refers to the subsequent compression of *some* of the springs without specifying which, and claim 10 refers to the subsequent compression of the *end* springs. In view of these claims and of the primacy and importance in the art of the Brill invention—"universally adopted"—shall these defendants appropriate it and go free by merely reversing the order in which their springs act? There is no evidence that, *in practice*, it makes any difference

which set of springs compress subsequently. The theory of the patent being the breaking of rhythm (as Judge Shipman found), there *can* be no difference in that respect.

Claims 9 and 10 were fully sustained by Judge Shipman.

4. Infringement of other claims, and especially of claims 9 and 10, can be shown at final hearing. Claims 9 and 10 relate to subsequent compression as between two sets of springs, but without specifying that it is the spiral springs which are compressed before the ellipticals. Either set may compress after the other. Claim 9 states that *some* of the springs are compressed subsequently to other springs, which applies to all three of defendants' classes of trucks. Claim 10 specifies that the *end* springs are compressed subsequently to the other springs, which applies to their "Standard" and "Extra Long" trucks, on their own showing and as found by the court below in these words:

> "In the car trucks of the defendants, both sets of springs are brought into action, and begin to compress simultaneously when the weight upon them is greater than the normal weight of the car."

Obviously, this is equivalent to stating that one set of springs takes the entire weight up to a point, and, after that, the other set begins to compress—which is subsequent compression of one set.

And while the defendants *allege* that their elliptical springs are stronger than their spiral springs and *call* them their *main* car springs, yet they did not offer to show *how much* stronger they are, and it is obvious that the four elliptical springs on one of their so-called "Extra Long" trucks *cannot* be stronger than the twelve spiral springs on the same structure.

It should be observed that *all* the defendant's trucks have spiral springs between their saddles and their movable frames and that all their elliptical springs rest on the *extensions* of their stationary frames.

5. Furthermore, the petitioners aver that they expect to be able to establish at final hearing from defendant Peckham Company's advertisements, that the defendants' *spiral* springs are in fact their *main* car-supporting springs, and sustain the greater part of the load. Consequently, it must be their elliptical springs which come under subsequent compression "when the weight upon them is greater than the normal weight of the car." (Judge Wallace's language.)

We submit that these considerations completely dispose of the contention that the complainants cannot establish their rights in these proceedings if the cause goes to final hearing.

Even with the Limitations placed upon Claims 1 and 2 by the Court below, the Defendants infringe.

Again, admitting (which we do not) that the court below is correct in limiting claims 1 and 2 to an arrangement having subsequent compression of one set of springs, the defendants' trucks have *in fact* the element of subsequent spring compression, and infringe upon those claims as so limited. The argument will be in part a repetition of what precedes.

The opinion of the court below specifically finds that the defendants' trucks have this element of subsequent spring compression, thus:

> "In the car trucks of the defendant both sets of springs are brought into action, and begin to compress simultaneously when the weight upon them is greater than the *normal weight of the car*."

This is precisely in accordance with this language of the patent in suit. Thus it states:

> P. 1, l. 62.—"The spiral springs . . . . . *normally* take the weight of the *car*."

> P. 1, l. 67—"I place elliptical springs . . . . . so disposed that they will not be brought into action until the weight of the load on the axle-box springs begins to depress said springs abnormally."

The defendants' elliptical springs, therefore, as found by the court below, must support at least the weight of the car before *any weight* comes on their spiral springs, and this is certainly equivalent to stating that there *is* subsequent compression of the spiral springs in their trucks.

Just *how heavy* the load must be *before* both sets of springs thus cooperate, either in the defendants' truck or in the truck of the patent, it is of course impossible to specify, and the patent in suit does not attempt to specify. In two places (p. 1, l. 73; p. 2, l. 3) that patent speaks in a general way of the "abnormal depression" of the car, but this phrase clearly has no *definite* significence. It would seem, however, to correspond in its scope to the language just quoted from the opinion of the court below in which reference is made to the "normal weight of the car" in connection with defendants' trucks. The fact is that in both defendants' trucks and the truck of the patent, one set of springs first comes into action with a light load, and thereafter both sets cooperate to sustain the heavier load and to lessen the objectionable oscillation. The exact relative adjustment as between the two sets of springs is a matter for the practical spring maker or car builder who regulates it to produce an easy-riding car under varying conditions of load.

But we submit that "*abnormally*" in the patent is not to be given any *controlling* weight, for this reason:

On p. 2, l. 126, the patent states: "The elliptical springs will not come into play until after the axle-box springs *have* BEGUN to compress." This language is quite distinct from "abnormal compression" used in the earlier part of the pat-

ent and indicates about the same degree of subsequent compression as the court below finds in defendants' trucks. Why should the court below rely upon "abnormal compression" to strike down a meritorious patent and give no weight to the equally important language just quoted, which clearly shows that the patentee did not attach any special importance to the words "abnormal depression" used in an earlier part of the specification?

If it be argued that the subsequent compression referred to in the patent in suit must relate to the elliptical springs, it is a sufficient reply to say that claims 9 and 10 both relate to successive compression as between two sets of springs, but without specifying which set of springs are to be compressed first and which class compressed last. Rhythm of oscillation is equally broken in either case, and that is the distinctive method of operation of the Brill invention.

It is wholly unimportant *in practice* whether it is the elliptical springs or the spiral springs that mainly support the car with a light load, and, conversely, which class are subsequently compressed. In fact, we do not understand that any one has alleged that there is any difference in practice in this respect.

We add that in defendants' "Extra Long" truck, which has twelve spiral springs and only four elliptic springs, the twelve spiral springs are *necessarily the main car springs* and the four elliptic springs must necessarily be subsidiary springs, supplementing the spiral springs under the weight of a full load and acting by subsequent spring compression, and the same is true of their other forms of trucks which have eight spirals and four elliptical springs each.

But the petitioners further aver that they expect to be able to prove, from published statements of the defendant Peckham Company (and they would have proved this on the motion for a preliminary injunction, if it had not been un-

necessary, under the established practice of the court below in such cases), that the spiral springs of the defendants' trucks are *in fact* their *main* car-supporting springs, and that they do in fact support the greater part of the weight of the car-body and its load, and consequently that the defendants' elliptical springs are those which come under subsequent compression "when the weight upon them is greater than the normal weight of the car" (Judge Wallace's opinion).

It will be noticed that in Figure 1 of the patent in suit the drawing shows merely a car truck *without a car body supported thereon.* The *added weight of the car body* would bring the spiral springs under compression and bring the structure down so as to reach or begin to compress the elliptical springs. With the added weight of the passengers, both sets of springs would come simultaneously under compression. And this is precisely the case with the defendants' trucks, as stated in the language of the court below just quoted, where it is said that in defendants' trucks "both sets of springs begin to compress simultaneously when the weight upon them is greater than the normal weight of the car."

Reference to particular points in the opinion of the Court below:

It is said, in the learned opinion of the Court below, that the combination of spiral springs with elliptical springs "would not involve invention unless some new method of operation due to the conjoint action of the two kind of springs should result from doing so." But it is submitted that where the earlier art showed no truck which lessened oscillation within necessary and required limits, a truck which would bring oscillation well under control, may be said to have produced a new result and indicate a new method of operation. Such a case comes within the principle laid down by Mr. Justice Brown in the *Barbed Wire Case*, where, referring to *Loom Company vs. Higgins*, 105 U. S. 591, he said:

"It was said by the Court, in answer to the argument, that the combination was a mere aggregation of old and well-known devices, that this argument would be sound if the combination claimed by Webster was an obvious one for attaining the advantages proposed—one which would occur to any mechanic skilled in the art. But it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not, for years, occur in this light to even the most skillful persons. It may have been under their very eyes, they may almost be said to have stumbled over it; but they certainly failed to see it, to estimate its value, and to bring it into notice . . . . Now that it has succeeded, it may seem very plain to any one that he could have done it as well. This is often the case with inventions of the greatest merit. It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a *new and beneficial result never attained before, it is evidence of invention.*'"

Even if we should admit, for the sake of argument (which we do not), that, as stated in the learned opinion of this Court, "the only novelty of the invention of those claims [1 and 2,] details of construction being disregarded, consists in the substitution of both spiral and elliptical in place of either spiral or elliptical springs," still if none of the thousand expert minds who were at work on the problem of a successful four-wheel truck ever thought of the truck of the Brill patent, and if it completely solved the problem, is not the inventor of such a device the very person for whose protection the patent laws are intended?

We submit that it is an erroneous view to take of the patent in question, to say that "the inventions . . . reside merely in the substitution of elliptical for the semi-elliptical

end springs." The invention consists, we submit, in the combination of spiral and elliptical springs in connection with the stationary and movable frames, as set forth in claims 1 and 2 of the patent, in such a way as to constitute a *new truck structure;* and it may seem useless to repeat again that this new truck was successful in overcoming oscillation, and that thenceforth the trade threw aside every other truck device and bought and used only this.

The language of the complainants' expert witness, quoted by the Court below, is given, we submit, undue weight. Of course, any truck with long overhanging ends will *better* support those ends if those ends are in some way supported on extensions of the side frames. This is merely the same as saying that *some* support is *better* than none. So the old spiral springs on extended side frames were *better* than no support at all. But they were really a failure and, till Brill devised his new truck, the electric street railway business was not a commercial success. And the truck of this Peckham patent was also a failure. Though it suggested a method of supporting the overhanging ends, its construction was entirely impracticable. It is hardly worth while to speculate about it when it was not capable of practical use.

Finally, we repeat the words of Judge Shipman, who, after a full and elaborate argument on a long Record in a hotly contested case, and with the deeper insight into the merits of the invention and the great value of Mr. Brill's contribution to the art gained thereby, summed up the case for the patent in these words:

> "The necessity for a remedy against the pounding of the car, the importance of the result, the adoption of the invention by experienced railway superintendents, the number of previous attempts at a remedy, and the bar-

> renness of their results, go far to show that the work of an inventive mind was required, and was active in the invention. The testimony of the defendants' expert itself, as he goes through the history of the art, and thereby points out what the patentee's combination did, as compared with previous efforts to do something, show that the patented improvement was patentable."

Brill made the invention in May, 1889, which was prior to the dates of the Manier and Peckham patents.

We submit that the evidence that Mr. Brill invented the device of the patent in suit in May, 1889, is ample under the decisions. If so, his invention antedates both the Manier and Peckham patents, and those patents drop out of the case. Judge Shipman was not required to decide this question, as he disposed of both those patents in another way.

Without elaborating the argument, in a brief already too long, we point out that the evidence of J. A. Brill and G. M. Brill in this Record, shows a completed invention of the broad claims of the patent, in May, 1889, fully within the rule of *Loom Co.* vs. *Higgins*, 105 U. S. 594, where it was said:

> "But Webster had invented it before that time, and had made a drawing of it which, in March, 1868, he exhibited and explained to Davis. An invention relating to machinery may be exhibited either *in a drawing* or in a model, so as to lay the foundation of a claim to priority, if it be sufficiently plain to enable those skilled in the art to understand it."

If this contention is correct, the principle basis for the ruling of the court below is removed from the case, and its findings were therefore erroneous.

We submit that on the whole case the court below erred:

1. In directing the bill to be dismissed.

2. In not affirming the decree of the Circuit Court upon the Rule of Comity.

And we pray a writ of *certiorari* to the court below, to the end that the Record may be brought into this court and here examined in order that these errors may be here duly corrected.

FRANCIS RAWLE,
for Petitioners.

FREDERICK P. FISH,
Of Counsel.

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Supreme Court of the United States

OCTOBER TERM, 1901 No. 151

JOHN A. BRILL AND THE J. G. BRILL COMPANY,
Petitioners,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY *et al.*

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF OF ARGUMENT FOR PETITIONERS

JOSEPH A. ISETT,
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for Petitioners.

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of Counsel.

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Supreme Court of the United States,

OCTOBER TERM, 1901.

No. 181.

JOHN A. BRILL AND THE J. G. BRILL COMPANY,
Petitioners,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY *et als.*,
Respondents.

ON WRIT OF *Certiorari* TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT.

I. STATEMENT OF THE CASE.

This was a Bill in Equity in the Circuit Court for the Southern District of New York, praying for an injunction and an accounting for infringement of Letters Patent of the United States, No. 478,218, dated July 5, 1892 (application filed June 26, 1891), to George Martin Brill, assigned to the complainant, John A. Brill. The J. G. Brill Company, of which the patentee and John A. Brill are both officers, are exclusive licensees under the patent.

The letters patent relate to an improvement in 4-wheel non-pivotal trucks for electric street cars.

The J. G. Brill Company is a manufacturer of street cars and trucks at Philadelphia, and the defendant, The Peckham

Motor Truck and Wheel Company, is a manufacturer of trucks at Kingston, New York.

The bill was filed October 15, 1900. It is in the usual form and avers broadly that the defendants have infringed upon the letters patent in suit. No particular claims are specified in the bill as having been infringed.

The Circuit Court heard the case on a motion on behalf of the complainants for a preliminary injunction upon Claims 1 and 2 of the patent in suit.

It was set up in the bill and was shown by complainants' affidavits that the validity of the patent in suit, as to Claims 1 and 2 (among others), had been fully established by an adjudication in the Circuit Court for the Southern District of New York, in a case of *John A. Brill* vs. *Third Avenue Railroad Co.*, in which the opinion of Judge Shipman was filed July 9, 1900 (Record p. 139).

The entire record of the case before Judge Shipman was before Judge Lacombe and is a part of the Record before this Court.

When the case was heard in the Circuit Court the defendants were permitted to file their affidavits at bar at the hearing. The complainants, therefore, had no opportunity to inspect them before the argument and no opportunity to file rebuttal affidavits.

The defendants' affidavits did not attack the validity of the patent in suit, but set up two United States patents (which had been fully considered and disposed of by Judge Shipman in the prior case), and took the ground that in view of these two patents, the scope of the two claims in controversy were not valid as they read and as construed by Judge Shipman, but that they must be limited in their scope, and denied infringement of the claims as thus limited.

Judge Lacombe, who heard the case, granted the motion. He held that as there was no prior patent before him which had not been before Judge Shipman, and as the combination which Judge Shipman described as the gist of the invention

was undoubtedly in the defendants' structures, the complainants were entitled to a restraining order "under well-settled rules of practice." (Record p. 135.)

Judge Lacombe, in entering a decree for an injunction, also entered a further order suspending the operation of the preliminary injunction until the hearing and determination of an appeal, to be taken within five days. (Record p. 138.)

The defendants then took an appeal to the Circuit Court of Appeals for the Second Circuit. After a hearing before Judges Wallace, Wheeler and Thomas, an opinion was filed directing that the order granting an injunction be reversed and that the cause be remanded to the Court below with instructions to vacate the injunction and dismiss the bill with costs (see p. 150 of Record). This was based upon the authority of *Mast, Foos & Co.* vs. *Stover Manufacturing Co.* 177 U. S. 485.

A petition was filed for a rehearing. The Court granted the petition and directed that the parties should submit briefs but that no oral argument should be had. Upon consideration of these briefs a *per curiam* opinion was filed to the effect that "a *majority* of the Court remain of the opinion that there should be no modification of the order made." (Record p. 166.)

The appellees below thereupon filed a petition in this Court for a writ of *certiorari* upon the ground that the case did not fall within the rule of *Mast, Foos & Co.* vs. *Stover Manufacturing Co.* and that the Court had erred in dismissing the bill in the then condition of the proceedings, and, further, in not affirming the injunction order of the Court below under the Rule of Comity.

This Court granted a writ of *certiorari* and the Record in the case is now before it.

II. SPECIFICATIONS OF ERROR.

1. The Court erred in not affirming the decree of the Circuit Court ordering a preliminary injunction until final hearing.

2. The Court erred in reversing the decree of the Circuit Court.

3. The Court erred in ordering that the cause be remanded to the Circuit Court with instructions to dismiss the bill.

4. The Court erred in finding that Claims 1 and 2 of the patent in suit were to be limited in their scope, and that, as so limited, they were not infringed upon by the appellants (respondents here).

5. The Court erred in finding that it was not necessary for Judge Shipman, in the case before him, to define accurately Claims 1 and 2 of the patent in suit, and in proceeding to review his finding in respect thereof.

6. The Court erred in not giving adequate legal effect to the adjudication of the Circuit Court for the Southern District of New York, in the case of Brill *vs.* Third Avenue Railroad Company.

7. The Court erred in not confining its consideration of the cause to the question of whether or not the Circuit Court, in awarding an injunction, had exceeded the exercise of its reasonable discretion.

8. The Court erred in holding that "it was old in the prior art to employ for the purpose of obviating the oscillation of the car body all the parts enumerated in the first and second claims, except the two kinds of springs in the same car truck."

9. The Court erred in holding that the combinations of Claims 1 and 2 of the patent in suit, which involve, as the Court held, for the first time the use "of both spiral and elliptical in place of either spiral or elliptical springs," were not patentable as defined in said claims.

10. The Court erred, when considering the question of patentability, in disregarding the "details of construction" recited in Claims 1 and 2, and in determining their patenta-

bility solely upon whether the use in a truck "of both spiral and elliptical in the place of either spiral *or* elliptical springs," was patentable or not, without regard to the manner of the employment of such springs.

11. The Court erred in holding that the combinations claimed in Claims 1 and 2 were not novel as therein claimed.

12. The Court erred in holding that "the inventions . . . reside merely in the *substitution* of elliptical for the *semi*-elliptical end springs."

13. The Court erred in holding that "the circumstance that the semi-elliptical springs of the Peckham patent extend transversely instead of longitudinally is therefore immaterial."

14. The Court erred in holding that "the inventions secured by the claims are of a very narrow character, and they cannot receive the broad construction which their language would authorize without affirming their invalidity for want of patentable novelty."

15. The Court erred in holding that the combinations of Claims 1 and 2 are "merely an aggregation of old parts."

16. The Court erred in holding that no "*new mode of operation* due to the conjoint action of the two kinds of springs" results from the combinations of Claims 1 and 2.

17. The Court erred in holding that the combinations claimed in Claims 1 and 2 are "merely an aggregation of old parts" and do not embody a "new result" and therefore were not patentable.

18. The Court erred in not holding that the combinations of Claims 1 and 2 were new combinations; that their respective elements in their new environment conjointly operated in a a new and improved way, and that the sum of the new combinations and the improved mode of operation constituted a new result, and was patentable.

19. The Court erred in holding that a new combination having a new or improved mode of operation was not patentable.

20. The Court erred in holding that "the structural changes in form and arrangement which may be discovered in the

specification afford the only features of novelty which can support the claims."

21. The Court erred in holding that the patentee having "contemplated special features of construction and arrangement of the springs," the patent must be limited to the most specific form of such arrangement.

22. The Court below erred in limiting Claims 1 and 2 to a mode of operation wherein the elliptical springs are "not brought into play . . . until the weight of the load on the axle box springs begins to depress said springs abnormally."

III. ARGUMENT FOR PETITIONERS.

A brief outline of the questions involved has been given above. Before proceeding with the argument it is necessary to state some additional facts.

The case before Judge Shipman was hard fought at every stage. The manufacturers of the trucks there in suit undertook the defence of the cause. The testimony covers 646 printed pages, and the argument occupied an entire day. The defendant was represented by eminent counsel. Judge Shipman sustained the validity of the patent as to Claims 1, 2, 9, 10, 11, 12, 14 and 27, and found that they had *all* been infringed. Claim 17 was found invalid and a disclaimer was duly filed. The decree for a perpetual injunction was made final October 1, 1900. No appeal was taken. The motion for a preliminary injunction in the case at bar before Judge Lacombe involved *only Claims 1 and 2* of the eight claims which had been fully sustained by Judge Shipman. Numerous letters patents, alleged to be prior in date, had been set up by the defendants in the Third Avenue Case before Judge Shipman, but all had been found by him to be irrelevant as affecting the validity and scope of the letters patent in suit. In the present case no new prior art has been adduced; indeed, the respondents have presented only two

United States letters patent out of a large number offered in the prior case: *Manier*, No. 419,993, dated August 27, 1899, and *Peckham*, No. 419,876, dated January 21, 1890. Both of these patents were carefully considered by Judge Shipman in his opinion, and both were considered in his opinion and were held not to affect the validity of *any* of the claims in controversy or their construction.

The respondents have not attempted in either of the Courts below to attack the validity of the letters patent, but only sought to limit the interpretation placed upon Claims 1 and 2 by Judge Shipman, and argued that their trucks did not infringe these claims as thus limited.

Judge Lacombe, in ordering a preliminary injunction, held:

> "The only question presented is whether defendant's structure infringes. That involves the construction of the claims declared on and for the purpose of this motion, the construction already adopted by this Court on final hearing in the Third Avenue case should be followed for *there is no prior patent*, no prior use proved here *which was not before Judge Shipman*. It is true that in that case the defendant's device was a much closer copy than the one now under consideration, containing, as it did, the feature that the spiral springs came first into play and the further feature of depending caps in which the leaves of the elliptic springs play vertically, but *the Court most carefully indicates* that *the leading feature of the invention lies outside of these details;* that the '*gist of the invention consists* in combining with the frame of the truck and the spiral springs other springs, viz., elliptical springs between the car body and the extension of the independent frame;' the object being to break the rhythm of the springs, and thus do away with the galloping or rocking motion. The defendant here insists that there is no rhythm broken, indeed, that there is no rhythm to break, and that the combination of the quota-

tion does not do away with the galloping motion. On these points, however, the Court should follow the earlier decision. There are additional rods and also spirals below the frame, which apparently in defendant's structure do their share in eliminating galloping; but *the combination which Judge Shipman described as the gist of the invention is undoubtedly in defendant's structure*, and under well-settled rules of practice complainant is entitled to a restraining order until final hearing."

There can be no doubt and the respondents have never attempted to deny that infringement was clearly made out if:

1. Claims 1 and 2 are to be construed according to their terms, or if

2. They are to be construed as Judge Shipman defined them in the Third Avenue Case.

That is, Judge Shipman sustained the claims broadly as they read.

Judge Lacombe, in granting the restraining order, suspended its operation, provided an appeal was taken in five days, ordering the defendant company to file a sworn monthly statement of sales. The question of a suspension of the operation of the injunction was not raised at the hearing nor argued. The complainants were thus deprived of the fruits of their victory by a staying order the propriety of which they had no opportunity to argue. Indeed, the argument on the motion for a preliminary injunction covered hardly more than half an hour, and took place upon the defendants' affidavits of facts which complainants' counsel had never seen until the argument began and could not rebut.

An appeal was promptly taken and promptly heard by the Court of Appeals. At the argument but an hour was given to counsel for the appellee, which, after the appellees' side of the case had been properly opened, left barely twenty minutes for argument. Of the two letters patent which alone were relied upon by appellants below, as imposing a limitation upon

Claims 1 and 2 sufficient to permit the appellant to escape the charge of infringement, the *Manier* Patent and the *Peckham* Patent, the *Manier* Patent was, in the opinion, considered as having no bearing, and the *Peckham* Patent, after an inspection by the presiding Justice, was stated by him at bar to have no relevancy to the case.

In its opinion, the Court of Appeals, practically admitting that Judge Shipman's interpretation of Claims 1 and 2 fully covered the trucks of the appellants, held that "it was not necessary in that case [before Judge Shipman] to define accurately Claims 1 and 2" and proceeded to consider these claims afresh, though the defence set up was precisely the *same defence* that had been fully considered and disposed of by Judge Shipman.

The Court below, in ordering the bill to be dismissed, based its decree solely upon the case of *Mast, Foos & Co.* vs. *Stover Manf. Co.*, 177 U. S. 485.

The petitioners deemed themselves aggrieved by this decree, and sought a writ of *certiorari* to correct it, for the following reasons:

1. *The doctrine of the Mast-Foos case does not apply to the case.*

2. *The Court below, under the "Rule of Comity," should have affirmed the decree of the Circuit Court granting an injunction, upon the prior adjudication of Judge Shipman.*

1. The Mast-Foos doctrine does not apply.

We submit that the doctrine of that case was entirely misapprehended by the Court below and that its application to the facts of the present case was error. The facts of this case differ essentially from the facts of the *Mast-Foos* case.

In the *Mast-Foos* case the patent in suit related to the use in a windmill of a simple mechanical gear device as old as mechanics. When the record came before the Circuit Court of Appeals in that case there was no single *fact* in dispute. It was not denied that the merits of the case were fully before

the Court—as fully as they could ever be. The sole contention of the complainant whose bill had been dismissed appears from the following specifications of error in the petition for a writ of *certiorari:*

> "That it was error of law for the Circuit Court of Appeals for the Seventh Circuit to *dismiss this bill.* . . . . upon mere *ex parte affidavits;* which decision . . . . was rendered without a trial 'according to the course and principles of courts of equity.'"
>
> "That it was error of law for the Circuit Court of Appeals for the Seventh Circuit to make this *final* decision on the *merits* without affording your petitioner the right of trial on evidence in chief and in rebuttal, taken by the examination and cross-examination of witnesses, as provided in Rules 67, 68, etc."

And in the brief on behalf of the petitioner in that case the same grounds for the writ were set forth:

> "The dismissal of the bill of complaint on such *ex parte* affidavits in such interlocutory proceeding on appeal from the Circuit Court granting a preliminary injunction; 'such dismissal of the bill for want of equity under such conditions depriving the petitioner of the right of trial of its cause.'"

The brief proceeded as follows:

> "Upon these facts, two questions of law arise for determination by this Court, to wit: (1) was the dismissal of the bill right or wrong? And (2) is the so-called 'rule of comity' between the Federal Courts to be maintained or not?"

No other questions than the above were raised in the argument for the petition.

The Transcript of Record in the cause shows that the entire evidence for the defendants consisted of a large number of letters patent, together with evidence of what is referred to in

the opinion of this Court as the Perkins Mill, as to which the facts were undisputed. The prior art set up in the case was different from that set up in the prior adjudication and, therefore, the Rule of Comity was not applied.

In the opinion sustaining the decree of the Court below, in that case, and ordering the bill to be dismissed, this Court most carefully defines the class of cases in which it is proper to dismiss a bill upon an appeal from a decree awarding a preliminary injunction. We quote from the opinion of this Court:

> "Does this doctrine apply to a case where a temporary injunction is granted *pendente lite* upon affidavits and immediately upon the filing of a bill? We are of opinion that this *must be determined from the circumstances of the particular case.* If the showing made by the plaintiff be *incomplete;* if the order for the injunction be reversed, because injunction was not the proper remedy, or because under the particular circumstances of the case, it should not have been granted; or if other relief be possible, notwithstanding the injunction be refused, then, clearly, the case should be remanded for a full hearing upon pleadings and proofs. But if the bill be obviously devoid of equity upon its face, and such invalidity be incapable of remedy by amendment; or if the patent manifestly fail to disclose a patentable novelty in the invention, we know of no reason why, to save a protracted litigation, the Court may not order the bill to be dismissed. Ordinarily, *if the case involve a question of fact,* as of anticipation or infringement, we think the parties are entitled to put in their evidence in the manner prescribed by the rules of this Court for taking testimony in equity cases. But if there be nothing in the affidavits tending to throw a doubt upon the existence or date of the anticipating devices, and giving them their proper effect, they establish the invalidity of the patent; or if no question be made *regarding the identity of the*

alleged infringing device, and *it appear clear that such device is not an infringement*, and no *suggestion* be made of *further proofs* upon the subject, we think the Court should not only overrule the order for the injunction, but dismiss the bill."

It appears, therefore, that the doctrine *does not apply:*

"If the showing made by the complainant is *incomplete.*"

"If the case *involve a question of fact*, as of anticipation or infringement."

If any "*suggestion* be made of *further proofs* upon the subject" of infringement.

The limitations to be placed upon the rule can be inferred with equal clearness from the three cases cited by this Court in its opinion. They were the following:

Gardt vs. *Brown*, 113 Ill. 475.

This was a bill filed by the owners of real estate to restrain the closing up of a certain door. The complainant procured a temporary injunction. On answer filed, there was a motion to dissolve the injunction, which was heard on bill, answer and affidavits, and an order was entered dissolving the injunction and dismissing the bill. The Supreme Court in its opinion said:

"It is urged that the Court, on dissolving the injunction, should have retained the bill for a hearing on evidence. We are unable to perceive any reason for doing so, because *the bill on its face discloses no equity*, and unless it had been amended it would have been useless to retain it for any purpose. The bill, as framed, involved only the construction of the deed and lease, and *that arose on the bill.* It was, therefore, improper to retain the bill, as to have done so would only have resulted in increased costs. Appellants have treated the decree as final, and had they not, their appeal would be

as dismissed. The circuit court judge who tried the case made this order: 'The order is, that the injunction be dissolved; and further, if complainants desire to take an appeal, that the bill be dismissed.' It was then *optional with appellants* to have the bill retained or to consider it as dismissed, and having made the election they must be held to their choice."

Green vs. *Mills*, 35 U. S. App. 383; 69 Fed. Rep. 852.

This case went no further than the Illinois case just cited. It was in substance a *political* bill "brought to restrain the registering officer from discharging the duties imposed upon him by law by which these complainants and others similarly situated might be deprived of a political right."

Chief Justice Fuller said, in dismissing the bill:

"We repeat that the action sought to be enjoined is *political and governmental*, and it is not pretended that any right of property or civil right is threatened with infringement thereby.

"This being so, we are clearly of opinion that *no ground of equitable cognizance exists*, and, although the appeal is from interlocutory orders, yet, *as we entertain no doubt that such a bill cannot be maintained*, we are constrained, in reversing these orders, to remand the cause with a direction to dismiss the bill."

Knoxville vs. *Africa*, 47 U. S. App. 74; 77 Fed. Rep. 501.

This was a bill to settle the right of Africa, who was engaged in the operation of an electric street railway in the City of Knoxville, to extend his railway and occupy three unoccupied streets of the city. The Circuit Court granted a preliminary injunction upon bill, answer, exhibits and *ex parte* affidavits filed in support of the bill. On appeal from the pre-

liminary injunction, the Court of Appeals for the Sixth Circuit was of opinion that the complainant, *by his own showing*, had no right under the law to occupy the streets in question, and that as the question was one of law and was *fully presented by the record*, the case should be decided upon the merits and if found to be with the defendant, the bill should be dismissed, and this was ordered to be done. The ground upon which this was done is more fully stated in the opinion of Lurton, C. J., rendered upon a petition for rehearing:

> "The appeal was from an interlocutory injunction. So far as the propriety of that injunction depended upon the validity of the ordinance of January 11, 1876, *we were in possession of a complete record*, and *could do full and final justice by determining the matters of law* upon which the street rights claimed under that grant depended."

But a *rehearing was granted* upon the ground that the Court had failed to take notice of the *fact* that Central Avenue and Crozier Street were one and the same street, and that an insignificant portion of Central Avenue was not under the actual occupancy of the complainant. The Court holding that the "record is not in such a condition as to justify a *final disposal* of the questions of *fact* upon which the ultimate rights of the parties must depend," the order dismissing the bill was revoked and the cause was permitted to proceed to final hearing.

We submit that there is nothing in these three cases which sustains the application of the doctrine of the *Mast-Foos* case to the case at bar. The cases of *Gardt* vs. *Brown* and *Green* vs. *Mills*, were obviously bills upon which a demurrer would have been sustained, and the courts in both cases substantially so treated them. In *Knoxville* vs. *Africa* it appeared in the first judgment that the complainant showed, by his own affidavits, that as a question of law upon *undisputed facts*, he had no equity under his bill.

It may be pointed out that the doctrine of the *Mast-Foos* case is merely a similar rule to that under which a patent bill may be dismissed on demurrer. But the cases where this has been done *are few* in the books. In most of the reported cases it has been refused, and it will always be refused, "If *doubt* exists . . . if the faults pointed out by the defendant *may, by any chance, be cured by proof;* if, in short, *there be a possibility* that the complainant *may* succeed" (*Electr. Vehicle Co.* vs. *Winton Co.*, 104 Fed. Rep. 814).

We submit, therefore, that upon the language of the opinion of this Court in the *Mast-Foos* case, upon the facts of that case, and upon the authorities cited by this Court in support of the doctrine there announced, the rule in that case will not be applied unless it appears that the *entire merits* are before the Court of Appeals, that the complainant has fully proved all the facts which are relevant in support of the bill of complaint, and that no fact alleged on behalf of the defendant is disputed; or, to state it in the language of this Court, if there is "any suggestion of further proofs," the rule announced in that case cannot be applied.

The petition for the writ fully sets forth the questions of fact as to which the "showing made by the complainant is incomplete," and as to which they claim the right to adduce proofs and to cross-examine the respondents' witnesses. A summary of such matters will be found on page 21 thereof, as follows:

"Your petitioners submit that it would be an intolerable hardship and injustice to them if they should be finally deprived of the opportunity to present testimony on their own behalf and also to cross-examine the defendants' witnesses upon the following issues, among others, namely:

I. The actual construction of the defendants' various trucks as they have made and sold them from the time they began to manufacture trucks containing the combination of spiral and elliptical springs of the patent in suit.

II. The actual operation of the defendants' devices as compared with the devices of the patent in suit.

III. The question whether defendants' devices do, *in fact*, infringe Claims 1 and 2, if said claims are to be limited as held by the Court below.

IV. The question whether defendants' trucks do, *in fact*, infringe other claims of the patent in suit (*e. g.*, Claims 9, 10, 11 and 14, which have been sustained by Judge *Shipman*).

V. The question how the devices of the Peckham patent, No. 419,876, would operate, if used, and whether they necessarily limit the complainants' patent in the manner adjudged by the Circuit Court of Appeals.

VI. That the devices of the said Peckham patent were and are, *in fact*, incapable of practical use, and that they were never in fact used.

VII. The question whether the complainants' invention antedates the said Peckham and Manier patents.

VIII. The utility and value, as well as the wide adoption and use, of the combination of Claims 1 and 2 of the patent in suit, consisting essentially of spiral and elliptical springs combined with the side beams and movable frames of a car truck, the said elliptical springs being of slower action and of a different period of action from the spiral springs, as showing patentable quality in the invention, regardless of the relative times at which one spring or the other comes into use.

IX. That the defendants' trucks are *not*, as claimed by the counsel for defendants, the Peckham Company, in his argument against the petition for re-hearing in the Court below, "radically different, both in construction and mode of operation from that of the patent in suit," such allegation being based upon *ex parte* affidavits relating chiefly to certain alleged experiments conducted by witnesses for the very purpose of this case, to which affidavits your petitioners were not permitted to reply in the Record now before the Court."

Another marked difference exists between the facts of the *Mast-Foos* case and of the case at bar, which has an important

bearing upon this case. In that case the complainant was served with the defendant's affidavits before the argument and was permitted to reply to them by rebuttal affidavits. In the case at bar the defendants were granted an adjournment, for one week, of the hearing of the motion for a preliminary injunction with leave to file their affidavits *at bar at the hearing.* The complainants' counsel asked the Court that they be ordered to be filed and served two days before the hearing, but this was refused. The complainants' counsel not only did not know till the hearing what the defence would be, but were debarred from putting in rebuttal affidavits. Under such practice the application of the doctrine of the Mast-Foos case would seem to be peculiarly inapplicable.

And not only were the complainants debarred from presenting counter-affidavits, but they were also limited to a single hour in the argument of the cause on appeal. This limited time did not permit of proper argument on the real merits of the case; it may almost be said that the case was submitted without oral arguments—certainly without adequate argument commensurate with the condition of the Record; the state of the facts involved therein; and the importance of the issues involved.

The complainants submit that they have not had their day in Court *either* to establish by proof the *facts* necessary to sustain the averments of their bill or to present to the Court adequate arguments of counsel on their behalf.

Again the Court below overruled the deliberate adjudication of Judge Shipman, one of the judges of the same circuit, which, in a litigated case in which every point was necessarily and expressly involved, had settled the very question involved. It held that Judge Shipman's finding as to what he held to be the very *gist* of the invention, was *not necessary* for the decision of the case before him. We submit that in this the Court was mistaken. On the contrary, the precise interpretation of Claims 1 and 2 was of the essence of Judge Shipman's adjudication:

Claim 1 covers the stationary frame (supported on the running gear); the movable frame (on which the car body rests); spiral springs located between these two frames, and elliptical springs located between the outer extensions of the frames.

Claim 2 covers the said stationary frame (supported on the running gear by saddles); the said movable frame; spiral springs between said saddles and said movable frame; and the elliptical springs between said frames.

Claim 1 provides that the elliptical springs shall be located between the outward extensions of the movable and stationary frames, while Claim 2 specifies only that their location shall be between the said frames.

Judge Shipman, referring to Claims 1 and 2, held as follows:

"The *gist* of the invention consisted of combining with the frames of the truck and the spiral springs, another class of springs, viz., elliptical springs, between the car body and the extensions of the independent (stationary) frames. The *elliptical* springs are *slower* in their *action* than the spiral springs and *neutralize the longitudinal oscillation* of the car body."

"This *leading feature of the invention* is described in Claims 1 and 2, which *do not contain the limitations* of the invention described in the next paragraph.

"A *second* and *minor feature* of the invention described in claims 9, 10, 11 and 14 is such an arrangement of the elliptical springs with the car body that they 'will not come into play until after the axle-box springs have begun to compress, and the action of the spiral springs in lifting the car body is continued after the ellictical springs have ceased to act.' The elliptical springs are not depressed until the car body or one end of it has become depressed by the weight of the passengers or some other cause, when this slower motion interposes and checks the continuation or increase of oscillation.

"It has already appeared that the *gist of the invention* is described in Claims 1 and 2.

"The result of the *minor* invention of Claims 9, 10, 11 and 14 was important, though upon first inspection its marked importance does not appear, but it perfected the *general* invention of the first two claims."

In the Third Avenue case much of the evidence taken was as to whether the defendant's trucks had the element of subsequent compression or not; consequently the Court was necessarily obliged to consider and to define accurately both sets of claims, those with and those without subsequent spring compression. The defendant *admitted* that it had used trucks having the feature of simultaneous spring compression, and did not deny infringement of the broad Claims 1 and 2. But it endeavored to prove that none of its trucks had ever been operated with *subsequent compression*, and it *denied infringement* of the limited Claims 9, 10, 11 and 14. Judge Shipman found for the complainant on this issue; that is, he found that the latter group of claims *had* been infringed. The question to be decided was twofold. 1. As to the *validity* of Claims 1 and 2, the defendant denying their *validity*, but never pretending that they were to be *limited* in any way and not seriously denying their *infringement*. 2. As to *infringement* of the minor group of claims, the *validity* of which was not seriously denied.

It appeared there that the defendant, during its use of the trucks, had *altered* them by inserting blocks of wood over the elliptical springs so as to bring them under compression simultaneously with the spiral springs when the car body was on the truck. If, therefore, Judge Shipman, instead of sustaining Claims 1 and 2 as broad claims, had limited them (as the Court below has done in this case), the defendant could have continued even after injunction to use the trucks as so altered.

We will show further, at p. 129, that the condition and use of the trucks complained of in the Third Avenue case was such as not only to warrant Judge Shipman in defining *accurately*

the scope of Claims 1 and 2, but to impose upon him the *duty* of doing so in order to adjudicate the precise issues before him.

The present petitioners went into the Circuit Court for a preliminary injunction with a complete adjudication of the validity of their patent and one which defined accurately the scope of the claims, and this by a judge of the very Court to which they made their application. If his definition of Claims 1 and 2 was correct, no question of infringement could arise. Having secured this adjudication after a long and arduous litigation, they were entitled to an injunction to restrain further infringement of their established rights at least until final hearing.

It will be remembered that no new prior art was set up—that the Peckham Patent considered by the Circuit Court of Appeals as imposing a limitation upon the plain language and scope of Claims 1 and 2 had been fully considered by Judge Shipman in the prior case and held by him to have no revelancy.

On such a case and with a record which amounted to hardly more than formal proof, which was all counsel deemed necessary, under the practice, to sustain the right to a preliminary injunction, the Circuit Court of Appeals rejected Judge Shipman's interpretation of the claims, took up the Peckham Patent which he had, with the aid not only of patent experts but of practical street railway men of large experience, carefully considered on final hearing and had disposed of, and which the Court below itself had brushed aside when presented at the oral argument of this case, and found that it imposed a limitation upon the claims as they read and as Judge Shipman had construed them, and summarily dismissed the bill.

It is submitted that the extension of the rule announced in the *Mast-Foos* case to the facts of the case at bar would effectually put an end to the practice of motions for prelimi-

nary injunctions in patent cases—a result that would go far towards destroying the value of property in letters patent. Public interests demand that a patentee who has sustained the validity of his patent after a test case upon pleadings and proofs, fully and honestly contested, should have the full benefit of his victory in a suit against another infringer. But under the ruling of the Circuit Court of Appeals in this case, it is believed that no litigant, under such circumstances, would venture to ask for a preliminary injunction. No matter what facts a complainant might set up in his injunction affidavits, a defendant may be expected to set up a counter statement of facts. The complainant, being debarred from presenting rebuttal affidavits, would practically be bound by the statement of facts in the defendant's affidavits, and, on appeal, would go to what may be turned into a final hearing, as the petitioners have been forced to do here, upon a record made up *ex parte*.

2. The Court below did not give "sufficient weight" to the Rule of Comity, and therefore the decree was reversible error.

The proper scope of the "Rule of Comity" and its application by Circuit Courts of Appeal is stated in the opinion of this Court in the *Mast-Foos case*. We submit that the present case, as presented to the Circuit Court of Appeals, was one in which the rule was peculiarly applicable and should have been applied, and that the refusal of the Court below, under the circumstances, was reversible error.

The case has every feature which would call for the application of the rule:

A prior adjudication of the patent after
A long and arduous and fully contested case.
Defended by a competing manufacturer,
Represented by able and experienced patent counsel.
An adjudication on the very claims here in issue,

Holding them not only to be valid, but as constituting the gist of the invention,

The precise definition of the scope of the claims, directly involved in the case and necessary to its determination.

Infringement not denied if the prior adjudication is to stand, or

If the claims are to be interpreted as they read.

No new art set up that had not been fully disposed of in the prior adjudication.

In *Mast, Foos & Co.* vs. *Stover Mfg. Co.*, it was said by this Court:

> "Comity, however, has no application to questions not considered by the prior Court, or, in patent cases, to alleged anticipating devices which were not laid before that Court. . . . It is scarcely necessary to say, however, that when the case reaches this Court we should *not reverse the action of the Court below* if we thought it correct upon the merits, though we were of opinion it had not given sufficient weight to the doctrine of comity."

This seems to imply a rule that in a *proper case* this Court *will* reverse a Circuit Court of Appeals for a failure to apply the doctrine, unless it appears that the decision below was correct upon the merits.

We submit that the case at bar is such a case; that "sufficient weight" was not given to the rule of comity by the Court below; and that its decision was not correct upon the merits.

The Rule of Comity and its application to a proper case in aid of a patentee who has established the validity of his patent, is a matter of general importance in the *administration* of the patent law. The question is constantly arising, and it is essential in the interests of uniformity in the various circuits, that the scope of the rule should be settled by an authoritative definition of this Court. The constitution of

the Federal courts with nine separate and co-ordinate appellate tribunals, a system hitherto unknown in any English-speaking country, seems to render this absolutely necessary. Unless they act under rules by which there is at least an attempt to secure uniformity of decision, the uncertainty will be intolerable and the system will break down. This was recognized in *Columbus Watch Co.* vs *Robbins*, 148 U. S. 266, where it was held that the fact that diverse judgments had been rendered in two Circuit Courts of Appeals under the same conditions "might furnish ground for *certiorari*." Courts of Appeal exist rather to secure uniformity of law than to give suitors another day in court and it was for this reason that a general supervision over the nine Circuit Courts of Appeal was retained in this Court by the Act of 1891—to be exercised by it in questions which it might deem of general importance. Necessarily, questions of *administrative law*, such as arise here must be of the greatest importance. The same considerations which induced this Court to hear this case will, we submit, induce it to correct the failure of the Court below to give proper effect to the rule of comity in this case, to which, we submit, it is peculiarly applicable.

The rule of comity had been carefully laid down by the *Court below itself*, as recently as February, 1900, in *Consolidated Fastener Co.* vs. *Hays*, 100 Fed. Rep. 984, where it said:

> "Shortly after its organization this Court had occasion to enunciate the proposition that, where there was an appeal from an order granting preliminary injunction, the Court below having followed an adjudication at circuit sustaining the patent after contest upon pleadings and proofs, such adjudication is to have the same weight which it should have before the Circuit Court. . . . The propriety of some such rule is apparent. The prior adjudication has been secured by complainant on testimony which has been sifted by cross-examination,

and it would seem that he should be entitled to cross-examination of defendant's experts before being deprived of the advantage of his previous decree. Especially so in view of the ease with which *ex parte* affidavits of experts exploiting any theory desired may apparently be obtained. This practice has been ever since adhered to by this Court.

"In *Fastener Co.* vs. *Littauer*, 28 C. C. A. 133; 84 Fed. 164, we quoted from the Paper-box case, *supra*: 'The adjudication upon which the motion for preliminary injunction was based, not being the subject of the appeal, is to have the same weight which it should have before the Circuit Court, . . . in the absence of some controlling reason for disregarding it,'—and added:

"'No such controlling reason is shown here. No prior patent, or prior use or prior publication, having an important bearing upon the validity or construction of the patent, and which was not before the Court in the Columbian Company case, is now presented; no new authority on patent law is now first cited; there is nothing to show an improvident exercise of legal discretion by the Circuit Judge; and, apparently, this is an *effort to review the decision in the Columbian case at final hearing* upon a *partial presentation* of the evidence then considered, and without the *cross-examination*. There is *no warrant for such practice*, which was *expressly condemned* in *American Paper-Pail & Box Co.* vs. *National Folding Box and Paper Co*, *supra*.'

"It has seemed desirable once more to restate this rule of practice, since the appeal here seems to have been mainly *argued on the theory that the decision of Judge Colt was to be reviewed*, as if this were an appeal from that decision upon the record before him."

Among the cases cited in *Mast, Foos & Co.* vs. *Stover Mfg. Co.*, at page 489, as being "well-considered cases" on the rule of comity, is the following:

Electric Mfg. Co. vs. *Edison Electric Light Co.*, 61 Fed. Rep. 834, where it was held:

> "Where the validity of a patent has been sustained by prior adjudication upon final hearing, and after *bona fide* and strenuous contest, the matter of its validity upon motion for preliminary injunction is no longer at issue, all defense, except that of infringement, being reserved to the final hearing."
>
> "When, upon judicial contest, a competent court has sanctioned the grant and determined the right thereunder, the monopoly thereby granted *ought not to be permitted to be invaded except upon a clear showing that the decision invoked in its favor was wrong.*"

We will cite decisions from several of the circuits which sustain the following legal propositions:

1. *On appeal from an order granting a preliminary injunction the Circuit Court of Appeals will consider only whether the lower Court exercised a reasonable discretion in granting an injunction.*

Loew Filter Co. vs. *German-American Filter Co.*, 107 Fed. Rep. 949. C. C. of A., Sixth Circuit, before Lurton, Severens and Clark, JJ.:

> "We have repeatedly held that an order granting an injunction will not be reversed on appeal unless it clearly appears that the Court below has fallen into a misapprehension respecting the facts or law of the case in a matter vital to the issue. Duplex Printing Press Co. *vs.* Campbell Printing Press & Mfg. Co., 16 C. C. A. 220, 69 Fed. Rep. 250; Thompson *vs.* Nelson, 18 C. C. A. 137, 71 Fed. Rep. 339; Proctor & Gamble Co. *vs.* Globe Refining Co., 34 C. C. A. 405, 92 Fed. Rep. 357."

Bissell Carpet Sweeper Co. vs. *Goshen Sweeper Co.*, 72 Fed. Rep. 545. C. C. of A., Sixth Circuit. Lurton, C. J., said:

> "When the appeal involves only an order or decree granting a preliminary injunction, this Court will not consider or determine the merits of the cause, but confine itself to a consideration of the question as to whether the Circuit Court has abused its discretion in the allowance of the writ."

Stearns-Roger Mfg. Co. vs. *Brown*, 114 Fed. Rep. 939, C. C. of A., Eighth Circuit. Caldwell, Sanborn and Thayer, JJ.:

> "The primary question on an appeal from an order granting a temporary injunction is whether or not the injunction evidences an error in the exercise of its sound judicial discretion by the court which issued it. There are established legal principles for the guidance of that discretion, and where they are violated the action of the Court below should be corrected. But, unless there is a plain disregard of some of the settled rules of equity which govern the issue of injunctions, the orders of the Courts below on this subject should not be disturbed. The law has placed upon these courts the duty to exercise this discretion. It has imposed upon them the responsibility of its exercise wisely, and has left them much latitude for action within the rules which should guide them; and, if there has been no violation of those rules, an appellate court ought not to interfere with the results of the exercise of their discretion. The right to exercise this discretion has been vested in the trial courts. It has not been granted to the appellate courts, and the question for them to determine is not how they would have exercised this discretion, but whether or not the Courts below have exercised it so carelessly or unreasonably that they have passed beyond the wide latitude permitted them, and vio-

lated the rules of law which should have guided their action."

So. Pac. Co. *vs.* Earl, 82 Fed. Rep. 690. C. C. of A., Ninth Circuit. Appeal from an order granting a preliminary injunction.

"Inasmuch as the granting of an injunction *pendente lite* is committed to the discretion of the trial court, it necessarily follows—and so the authorities uniformly hold—that upon an appeal from such an order the only question which the Appellate Court is called upon to determine is whether the Court, in making such an order, abused its discretion. If there was before the Court evidence having a reasonable tendency to make out a *prima facie* case for the plaintiff, the order granting the injunction will generally be affirmed, notwithstanding there may have been a material conflict in the evidence submitted to the Court at the time of making its order; or, stating the same rule in different words, the decision of the Judge who made the order will not be reversed unless it appears, after a consideration of all the evidence upon which his action was based, that his legal discretion to grant or withhold the order was improvidently exercised."

2. *The prior adjudication, not being the subject of the appeal, is entitled to the same weight in the Circuit Court of Appeals which it should have had in the Circuit Court.*

Consolidated Fastener Co. vs. *Littauer*, 84 Fed. Rep. 164. C. C. of A., Second Circuit.

"The adjudication upon which the motion for preliminary injunction was based, not being the subject of the appeal, is to have the same weight which it should have before the Circuit Court, . . . in the absence of some controlling reason for disregarding it.

The Court said that this was an effort to review the decision in a prior case. There was no warrant for such practice.

Duplex Printing Press Co. vs. *Campbell Co.*, 69 Fed. Rep. 250. C. C. of A., Sixth Circuit. Taft, C. J.

> "On an appeal from an order granting a preliminary injunction in a patent case, a prior adjudication by the Circuit Court of another circuit sustaining the patent and finding infringement is entitled to the same consideration as in the Court below, and is sufficient ground for affirming the order."

American Paper Pail Co. vs. *National Folding Box Co.*, 51 Fed. Rep. 229, C. C. of A., Second Circuit. Appeal from an order for a preliminary injunction, based on a prior adjudication by Judge Lacombe.

> "The appeal calls upon this Court to state its position, as an appellate court, in regard to motions of this character, and particularly with respect to the weight which is to be given to the previous adjudication, which is generally the foundation of a preliminary injunction. The appellate court is to examine the interlocutory decision of the Circuit Court in the light of the affidavits, and of the history of the patent, and the adjudications thereon, which were presented to that Court. The adjudication upon which the motion for preliminary injunction was based, not being the subject of the appeal, it is to have the same weight which it should have before the Circuit Court."

Heaton-Peninsular Co. vs. *Elliott Co.*, 58 Fed. Rep. 220. C. C. Mich. Brown, C. J.:

> "Where an issue has once been passed upon by a Circuit Court, it is only in a case of clear mistake of law or fact, of newly discovered testimony, or upon some question not considered by the Court, that a Circuit Court sitting in another district is at liberty to review the find-

ings, and it will not do so merely because there is doubt as to whether the patent in issue has been anticipated, when that question has been previously passed upon."

Of course, both the *validity* of the patent and *infringement* must clearly appear before a preliminary injunction can be granted. But both did appear in this case. Judge Shipman in his prior adjudication had fully sustained the patent, *had also accurately* and *precisely* defined the scope of Claims 1 and 2 of the patent in suit before him and here in suit, and, as will be shown fully below, it was *necessary to the decision of that case to do so.* There has never been any pretence that the respondents' trucks do not infringe upon Claims 1 and 2 as they were defined by Judge Shipman, and that they do not contain what Judge Shipman found, after full consideration, to be the *gist of the invention.* Judge Lacombe so held in his brief opinion in the Circuit Court.

The case at bar seems a peculiarly hard one.

The invention was conceived in 1889. It was put in use in 1891. The application for a patent was filed June 26, 1891, and the patent was granted July 5, 1892. The applicant came out of the Patent Office with his broad claims, as filed, in spite of the references there cited against him, including the Manier patent and the Peckham patent 419,876 here solely relied upon as indicating the prior art.

He received a grant of a patent, which, as this Court has held, was *prima facie* valid from the date of its issue (*Mitchell* vs. *Tilghman*, 19 Wall. 390; *Lehnbeuter* vs. *Holthaus*, 105 U. S. 94). When such a patent is offered as evidence the burden is cast upon the defendant to show that it is invalid. (*Seymour* vs. *Osborne*, 11 Wall. 516, 538.) The defences of anticipation, etc., must be pleaded and proved, and so strong is the presumption of the validity of the patent that this Court has held that on such issues every reasonable doubt should be resolved against the defendant. (*Coffin* vs. *Ogden*, 18 Wall. 120, 124; *Cantrell* vs. *Wallick*, 117 U. S. 689.)

The invention soon went into general and almost exclusive use—was "*universally adopted*" *in the trade.* Competing truck builders began to infringe, as the railway companies would buy no other type of trucks. The Bemis Car Box Company built the infringing trucks in the Third Avenue case about 1894. That case was fought as a test case. In 1900, after a long and arduous contest, in which the Manier and Peckham patents were again set up, the validity of the patent was broadly sustained by Judge Shipman, who held that, in a most important art, the invention had provided "almost a complete remedy" for a serious difficulty and had been "universally adopted."

Relying upon this adjudication, the patentee at once (October, 1900) sought a remedy against another competitor, who had already sold 10,000 infringing trucks. Again the Manier and Peckham patents (and no others) are set up by the defendant. He obtains an injunction in the Circuit Court, but, without a hearing, is at once deprived of its effect by a suspending order. A record made up against him by *ex parte* affidavits which he never saw until the hearing, and could not rebut, is taken to the Court of Appeals, and there he is told that his hard-fought victory before Judge Shipman was of no value to him; that the twice rejected Peckham patent limits his invention, and that Judge Shipman's deliberate adjudication that his specification and claims were as broad as his invention was a mistake. And, finally, his bill is dismissed without a day in court for the ascertainment of his rights in the usual and orderly manner of courts of equity.

3. AS TO THE MERITS OF THE CASE.

The Patent in Suit and its Relation to the Art.

The only claims here in controversy are Claims 1 and 2.

Judge Shipman sustained the validity of Claims 1, 2, 9, 10, 11, 12, 14 and 27.

The patent in suit relates to the construction of non-pivotal electric street railway trucks for use under cars having a single four-wheel truck. The condition of the electric street railway business at the time of the invention of the subject-matter of the letters patent in suit, and the nature of this invention, found by him upon uncontradicted evidence, are clearly set forth in the opinion of *Judge Shipman* in the *Third Avenue case:*

"After electricity was substituted upon city railroads as a motive power to move cars formerly drawn by horses, the railroad corporations were subjected to great expense and the passengers to severe inconvenience in consequence of the oscillation of the cars from end to end, or 'galloping' motion as it was called. The horse cars were sixteen feet long and had a wheel-base or distance between the two pairs of wheels of six to seven and one-half feet. The new electric cars were from eighteen to twenty-two feet long, but, in consequence of the short radii of curves in city streets where cars turn from street to street, it was necessary to keep the wheel-base about as short as before to enable the car to pass around the curves, and, therefore, the car body was longer than the truck and overhung it. The result was that these overhanging and *unsupported* ends oscillated, pounded the rails, strained the trucks and *caused discomfort*, and, on heavily laden open cars, *danger to the passengers.* The patentee says in his specification:

"'The main object of my invention is to enable a truck of comparatively short wheel-base to be used, and to support a car body upon it, the ends of which overhang the truck for some distance. My invention is also intended to overcome in a measure the end vibration or oscillation of the car body and movable portion of the truck to which the car is secured.'

"In the patented structure, a pair of rigid longitudinal side beams, which derive their support from the axle

boxes, extend lengthwise of the truck beyond the wheels at each end and are called the 'independent frame.' At each side of each beam [box] a spiral spring is interposed between the beam and the spring plates upon which the car body rests and to which it is rigidly secured. These spring plates are secured to a rectangular frame called the 'movable portion' of the truck. At each side of the car there are two spring plates and four spiral springs, two between each plate and corresponding longitudinal beam or saddle, thus making a set of eight springs, called axle box springs. These springs, supported as they are upon a space equal to the length of the wheel base, cannot firmly support a car body of the length of the ordinary trolley car, and a multiplication of spiral springs between the wheels and the end of the car was also inadequate. The gist of the invention consisted in combining with the frames of the truck and the spiral springs, another class of springs, viz., elliptical springs, between the car body and the extensions of the independent frame. The elliptical springs are slower in their action than the spiral springs and neutralize the longitudinal oscillation of the car body."

John A. Brill, who has been building street cars and trucks for thirty years, avers (Record p. 31):

"The effect of it in the operation of the road was very serious. The old style of tracks, with the rails laid on parallel stringers, had a life of *hardly more than three years* under these conditions, owing to the *pounding of the single truck cars*. It became necessary to re-lay the rails with from 90- to 110-lb. rails to the yard, whereas on steam railroads the average weight of the rails was from 50 to 100 pounds to the yard. The effect on the truck of the *oscillation or galloping* was to bring about strains upon, and to loosen the component parts of, the truck and decrease its life and service; and the same was

true of the car bodies. *Oscillation* was also a source of great discomfort to the passengers, and on open cars there was an added element of danger to the passengers, it being well known that there have been instances where passengers have been thrown from their seats by the motion of the car. To make electric propulsion profitable, it was necessary to *increase the speed* of the cars in order to increase their daily mileage. The increase of speed, as above stated, greatly *increased the oscillation* and made it still more dangerous. When a car began to oscillate, it was necessary to *reduce the speed in order to steady the car*. There was also a constant danger of *derailment* in running a car while under this galloping motion. I have heard of very serious accidents happening by the derailment of cars caused by oscillation, attended with considerable loss of life. I have also heard of an instance where, under poor track conditions, it was found necessary to stop the running of cars entirely on account of this tendency. This tendency to excessive oscillation existed with the use of old styles of trucks and *before the introduction of the truck of the patent in suit.*"

To the same effect, George M. Brill, the patentee and probably the oldest car and truck builder in the country (Record p. 46).

Fagan's deposition states (p. 49 of Record):

"Where there is a tendency to oscillation, it increases with the speed. It takes place at, or is caused by, the 'low' or depressed joints of the rails and the intersection of tracks and where there is a change of grade. The oscillation with the trucks I have mentioned [all the earlier types of trucks] was so injurious that we were obliged to abandon the use of these trucks.

"The profitable operation of an electric street railway depends chiefly upon running cars at high speed. When

a car in running fast begins to oscillate, the speed has to be checked till the car becomes steady."

Littell states (p. 52 of Record):

"Where cars are running at the high rate of speed and begin to oscillate, brakes must be applied immediately and the speed reduced. If this is not done, the car may be derailed. Many derailments have been caused by excessive oscillation."

Akarman states (p. 54 of Record):

"The cause of oscillation in operating such a car body when placed upon such a truck, is as follows:

"It was the usual practice in laying the rails to leave a slight space between the ends of the rails, and when the ends of the rails became more or less depressed, a car, in passing over such a depression, gets a rocking or galloping or oscillating motion. . . . This rocking, or galloping or oscillating motion is increased when the track gets out of repair, and also when cars are run at a high rate of speed. . . .

"When a car, under such conditions, begins to rock or gallop, it pounds the joints of the rails and depresses them, thus making the track conditions more and more likely to produce such motion.

"Oscillation is greatly increased with an increase of speed, and as soon as a car in rapid motion begins to oscillate seriously, it is necessary at once to slow down the car, as in such case there is great danger of derailment."

"None of these types of trucks [the earlier ones] were successful in *preventing excessive and dangerous* oscillation, and the railway company with which I was then connected, made some experiments of its own. . . . These experiments were also unsuccessful in preventing the oscillation. In the use of all four types of trucks on that road, as above described, we had excessive and dan-

gerous oscillation of the cars, and we were unable to run our cars at the rate of speed necessary for successful operation."

The Record also shows that the truck of the patent *was a complete remedy* for oscillation and that it was *fully accepted as such in the trade.*

Fagan (p. 50 of Record):

"Four-wheel trucks with a combination of spiral and elliptic springs on the extended ends of the side beams have practically displaced all other types of single trucks in this country, and have gone into general use."

Littell (p. 52 of Record).

"So far as the use of trucks under long car bodies is concerned, I believe that this type has entirely displaced the early types with all spiral springs."

Akarman (p. 55 of Record):

"This type of truck has gone into universal use under four-wheel cars, and has substantially, if not completely displaced all other constructions of single trucks."

G. M. Brill (p. 48 of Record):

"Nearly 90 per cent. of all the four-wheel trucks in use in the United States were constructed in accordance with this invention."

Judge *Shipman*, in the *Third Avenue case*, said:

"The invention, *as a whole, attracted the immediate attention of railway superintendents*, was *found to accomplish its object* and to be almost a *complete remedy* [*obviously, oscillation of a car can never be completely eliminated*] *and trucks having spiral springs next to the*

axle-boxes and elliptic springs on the extensions of the truck frame have been universally adopted."

It is confidently asserted, and this Record establishes, that in the early days of this art, 1889 to 1891, there was no truck known to the trade which could be operated at the required speed without oscillating *to a prohibitory extent;* that the situation, to the street railway men, was serious, and that the truck of the patent was a *complete practical remedy* and was *accepted* as such and *universally adopted.* This appears in the affidavits in the Record of five of the most experienced railway men in the country, three of whom have been at the head of large systems and are entirely disinterested. The statement is not denied by the respondents' affidavits.

CLAIMS 1 AND 2, TOGETHER WITH THE SPECIFICATION, CONSIDERED.

Claims 1 and 2 are as follows:

"1. In a motor-truck, the combination, with a stationary frame supported upon the running-gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame, substantially as described.

"2. In a truck, a spring-supporting frame supported upon the running-gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring-supporting frame and the movable frame, substantially as described."

The springs mentioned in these claims require no explanation at this point. But the specific construction of the truck frame with which the springs are combined, and which constitutes *essential elements of the claims*, should be made perfectly clear.

The patent in suit states: "My invention relates to the application of what is known as an 'extended spring base' to trucks for street cars."

For this purpose it is manifest that a strong, stable frame was desired. The patent proceeds to describe such a frame as follows:

"In my structure I mount upon the axle-boxes, either rigidly or flexibly [that is, either rigidly metal to metal or flexibly by interposing a spring cushion such as 5^1 between the frame and the axle-boxes], what are known in the art as 'side beams,' which *singly* or when united laterally form a frame which is not affected either by the up-and-down vibrations of the car-body or movable portion of the truck, or when the said frame is flexibly supported upon the axle-boxes by the lateral thrust of the axles."

Thus the patent provides a frame which is either rigid on the axle boxes, or only movable vertically thereon to the extent of compression of the interposed cushions or springs 5^1, if such are used; so that a substantial and stationary support or base is provided for the springs which support the car-body. In addition to this, *the frame is provided with component or integral means* for tying together the axles at each side, and preserving them in what is technically called "parallelism," so that at all times the axels will be at right angles to the longitudinal centre of the car-body. The truck of the patent also includes what is technically termed in the art a body pedestal, forming part of the movable frame, *which positively and rigidly connects the car-body and stationary frame together* so far as *horizontal movement* (either transversely or longitudinally) of the car on the truck is concerned. These two essentials of practical modern electric truck construction (which are followed by the respondents in their trucks) are

secured by the construction referred to in the patent as follows:

> "At a point where the side beams [it being apparent that each 'side beam' has the foregoing characteristics singly, that is, when not tied together transversely to form a regtangular frame, or when so united into a rectangular frame] extend close to the axle-boxes they are secured to axle-box saddles [6 and 7], which saddles have extensions which provide seats for the 'axle-box springs,' (so called), and are also apertured to permit spring-posts [23] to pass through them. Upon these axle-box springs (which, in conjunction with the spring-posts and bracing for the same, form the pedestals for the axle-boxes) rests the upper chord [17] of the truck."

By means of the spring-posts, which pass through the saddles, a body pedestal is secured for holding the truck and car-body together as a unit, and for preserving the longitudinal parallelism of the side beams with the car sills. The spring-posts, passing through the side beams, relieve the car springs of any stress due to *horizontal* movement of the car-body on the truck.

The patent states that "6 and 7 are saddles supported on the axle-boxes either rigidly, flexibly, or in such a manner as to be capable of a movement in the line of the axle." This means that there is almost always a slight movement of the axle in the axle-boxes in the direction of the length of the axle. This is provided in order to relieve the axle-boxes of any undue strain caused by endwise thrusts to which the axles are invariably subjected. *Relatively to the axle*, therefore, there may possibly be a slight transverse movement of the side beams in the line of the axle coincident with that of the axle-boxes.

The patent further recites:

> "The side beams may be united laterally to form an integral frame; but this does not enter into the present

invention to any material extent, and so I have not shown them as united, *for the side beams act herein as an independent frame or support.*

"This truck is to be distinguished from the truck of the ordinary structure by reason of the fact that it comprises two distinct parts—one part comprising (apart from the running-gear) *the side beams or frame* and another part comprising the upper chord with its bracing and spring-posts. The first I shall term the 'stationary frame,' (although it is not stationary in the true sense of the word, because there is a play of the axles in the boxes and there may be a movement [vertically on the cushions] of the side beams) because it is not affected by the movement of *the car body to any appreciable extent.* . . ."

In addition to the characteristics of the side beams (or "independent frame or support" as it is termed in the patent), it is to be noted that the only movements they have is a slight vertical movement on the cushions 5^1, and a slight possible movement due to the axle thrust. *There is positively no movement whatsoever of the side beams in the direction of their length, or, in relation to the axle boxes, in any direction. It is clear that any longitudinal movement, or any swinging or lateral movement of the side beams other than the axle thrust just referred to, would completely destroy the efficiency of the frame as a base or support for the car springs, and would eliminate the important features of its construction, viz: component axle-box saddles preserving the parallelism of the axles, and body pedestals directly secured to the side beams or stationary frame.*

The relation which Claims 1 and 2 bear to the other claims of the patent is shown as follows, following along the lines of the *Third Avenue Case* before Judge Shipman:

The fundamental contention of the complainant in that case was that the eight claims there in controversy were to be placed in three groups.

First group, Claims 1 and 2 (the only claims now in controversy) cover the combination, with the frames of the truck structure, of the sets of springs of different character (spiral and elliptic springs) *arranged as recited therein*, to spring support the car body more efficiently and to neutralize the tendency towards longitudinal oscillation of the car body upon the supporting side frames.

Second group, Claims 9, 10, 11 and 14, cover such an arrangement of the springs that one set of springs is brought into action, on the downward movement of the car body, after the other set of springs has begun to be compressed.

Third group, Claims 12 and 27, relate to details of construction by which the elliptical springs are connected and engaged with the frames with which they co-operate.

The petitioners' expert witness, Mr. Livermore, after describing the structure of the patent in suit, says as follows (Record p. 68):

> "That portion of the invention of the patent in suit which consists in the combination with the frames of the truck structure thus far described, of the sets of springs of a different character arranged as described, to neutralize the tendency toward longitudinal oscillation of the car body upon said supporting frame, is what I understand is referred to in Claims 1 and 2 of the patent in suit."

As to the *second* group of claims, he proceeds to say:

> "The *subsidiary* features which I have above referred to may be briefly described as follows: One of the said features forming the subject of Claims 9, 10, 11 and 14 of the Brill patent, consists in so arranging and proportioning the springs that the slow-acting elliptical springs will not come into play until after the axle-box springs have begun to compress, and the action of the spirals in lifting the car body is continued after the elliptical springs have ceased to act."

And as to the *third* group he states:

"Another feature forming the subject of Claims 12 and 27 resides in the details of construction of the parts by which the elliptical springs are connected and engaged with the frames with which they co-operate."

We quote again from Judge Shipman on this point:

"The gist of the invention consisted *in combining with the frames of the truck and the spiral springs, another class of springs, viz., elliptical springs, between the car body and the extensions of the independent frame.*

"This *leading feature* of the invention is described in *Claims 1 and 2*, which *do not contain the limitations of the invention described in the next paragraph.* A *second* and *minor feature* of the invention described in Claims 9, 10, 11 and 14, is such an arrangement of the elliptical springs with the car body that they 'will not come into play *until after the axle box springs have begun to compress*, and the action of the spiral springs in lifting the car body is continued after the elliptical springs have ceased to act.' The elliptical springs are not depressed until the car body or one end of it has become depressed by the *weight of the passengers or some other cause*, when this slower motion interposes and checks the continuation or increase of oscillation.

"A *third* and *more subordinate feature of the invention* is described in Claims 12, 17 and 27, and consists in the construction by which the elliptical springs are engaged with the independent frame of the truck and car body."

That Claims 1 and 2 were *broad claims* (to be *interpreted as they read*), and this grouping of the claims and this theory of the scope of the respective groups, were the *basis of the complainant's contention* in the Third Avenue case. The complainant's expert in that case, Mr. Livermore, considered the

case entirely from that standpoint. The defendant's expert witness there, Mr. Chapin, followed the same line of thought. The argument of complainant's counsel followed along the lines of Mr. Livermore's testimony and the counsel for the defendant expressly followed the same grouping. They would, if they had thought the position *tenable*, undoubtedly have taken the ground that Claims 1 and 2 *should be limited* to successive compression. The reason for this is that the defendant's counsel in the Third Avenue case urgently contended, though unsuccessfully, that as a matter of fact *all* the Third Avenue trucks had their spiral and elliptic springs so arranged that *all came under compression at the same moment* upon the mounting of car body thereon. Their defence would have been to establish that such was the *fact*, and then to contend that Claims 1 and 2 must be limited to subsequent compression (the precise contention of the respondents in this case) They did not, however, attempt to take this position, but admitted the broad scope of Claims 1 and 2, if held valid at all, and attacked their validity, endeavoring to escape infringement of Claims 9, 10, 11 and 14 by showing that their trucks did not *in fact* show subsequent compression.

Thus, Judge Shipman said (Rec. p. 242):

> "The *contest* in regard to infringement related to Claims 9, 10, 11 and 14."

Claims 1 and 2 cover the broad invention which the evidence *shows the patentee to have made*. The fact is that in the Brill truck the spiral springs are what might be called the master car springs and in action they are supplemented by the elliptic springs. But when both are doing their work, *i. e.* carrying the car body and sustaining a load, they both act simultaneously in carrying the weight of the car body and the weight of the passengers. As the patent states, "one adaptation of the invention" was to make the *spirals* somewhat weaker than the spirals had *formerly* been in all-spiral trucks.

Obviously then the weaker spiral springs would more quickly compress and bring the load down to the elliptic springs.

When a car is placed upon the movable frame which is supported by the springs, the spiral springs are forthwith compressed and bring the weight down to the elliptical springs, which, thereupon, come under compression. During the actual use of the car both sets of springs support the weight of the car and its load and lessen longitudinal oscillation. Inasmuch as a car truck is a structure intended *for use under a load*, it must be considered from that standpoint. This explains why, in the drawing of the patent in suit, of a truck *without a car superimposed upon it*, a space is shown between the top of the elliptical springs and the movable frames. As just stated, when the car is placed upon the truck this space is taken up and the weight is brought down so as to compress the elliptical springs. Any other mode of construction would be an absurdity. The object of using the two kinds of springs is to produce an easy-riding car and to prevent oscillation; that is, after the *initiation* of the compression of spirals, the elliptics *at once* are in action, and they *cooperate* to this end in practical use.

This is shown by the following language of the specification (p. 2, line 120):

> "To this end I supplement the axle-box springs by placing elliptical springs of slower action between the extended portions or sections of the side beams and upper chord, and so arrange them in respect to each other that the elliptical springs will not come into play until after the axle-box springs have *begun* to compress."

Just *how heavy* the weight must be before both sets thus cooperate, is, of course, impossible to specify and the patent in suit does not attempt to specify, either in the language just quoted therefrom or in two other passages therein in which the expression "abnormal depression" of the spiral springs is used. This latter phrase clearly has no definite significance.

The point is that one set of springs will come first into action and with the load of the car thereon both sets will co-operate to support the weight and lessen or prevent oscillation.

The same relative arrangement is used by the respondents. Thus Beetem says, in relation to respondents' trucks (Record p. 103):

> "The arrangement of the car supporting springs is such that the weight of the *car body* is *first* supported upon four elliptic springs which are rigidly secured between the top and bottom, and carry the greater part of the *weight of the car body*. The spirals, which are weaker, carry the remainder of the load."

And the same thing is shown in a later Peckham patent, 563,685 (to be referred to below), which *covers the precise structure of the respondents' trucks complained of*. The specification of that patent states, at page 3, line 31:

> "I overcome serious objections heretofore encountered when making use of elliptical springs in truck structures, as I am enabled to bring the weight of the *car body* more directly upon the *elliptical springs* than upon said *spiral springs*."

The Court below found that the mode of operation of the respondents' trucks was the same. We quote the language of its opinion:

> "In the car trucks of the defendant both sets of springs are brought into action and begin to compress simultaneously *when the weight upon them is greater than the normal weight of the car*."

The sole function of the combined spirals and elliptics of the patent is not to lessen end galloping; *primarily springs are intended to sustain the car*. The end galloping admittedly takes place only under *unusual* conditions. Therefore, it is

not true, that the elliptics come under compression only when the car is galloping. Obviously they come under compression *when the car is placed on the truck* and under *further* compression when the car is loaded. The specification shows this. It recites that long cars had then come in vogue, that is, cars carrying a heavier load than formerly. Of course this load would be too heavy for the spiral springs of the capacity of the old spirals put under the short cars built for comparatively small loads. Besides this, the specification states that in one adaption of the invention, the spirals were to be made even weaker than they had been when used in all-spiral, extended spring-base trucks. Clearly, therefore, the intent of the inventor was that the spirals should sooner compress and sooner bring the weight down on the elliptic springs.

In the respondents' truck structure it is said that the elliptics are the master car springs and that they are supplemented by the spirals; but in both structures all the springs are operative and at work *when the car and truck are at work.* In both structures all the springs are compressed relatively at the same time, when the car body is on the truck. Both have the same mode of operation and both are efficient in their operation for the checking of oscillation.

In the truck of the patent in suit there is a *certain* subsequent compression of the elliptics; but this is merely a *suitable relative arrangement* or graduation of springs. It is clearly the subsequent compression idea covered by the second group of claims (9, 10, 11 and 14).

It will appear later that Claim 9 covers the subsequent compression of *either* set of springs and Claim 10 refers to the subsequent compression of the *end springs*, thus covering all classes of respondents' trucks. Both of these claims were sustained by Judge Shipman. And it will be observed that the respondents' trucks are *all* covered by the terms of Claims 1 and 2, because they *all* have elliptical springs on *extensions of the side beams* (Livermore, Record p. 71).

THE LANGUAGE OF THE BRILL PATENT. IT DOES NOT IMPOSE ANY LIMITATION UPON THE BROAD CLAIMS 1 AND 2.

The Court below held that the language of the patent is such that Claims 1 and 2 must be limited to an arrangement of springs in which the elliptical springs are not "brought into play until the spiral springs have been compressed by the weight of the car body *and the added load*, 'until the weight of the load on the axle-box springs begins to depress said springs abnormally.'"

We submit that placing this limitation upon these broad claims is entirely erroneous for the following reasons:

1. Brill *really invented* the *broad combination* of spiral and elliptical springs and stationary and movable frames in their patented relation, without regard to the *minor* element of subsequent spring compression. This is shown:

(*a*) By the position of his invention in the art. There is no real pretence of any pertinent patent but Peckham, 419,876, and, as will be shown more fully hereafter, that patent is entitled to no more consideration here than Judge Shipman gave it in the *Third Avenue* case. It did not disclose the *combination* of Claims 1 and 2 of the Brill patent *nor their separate elements*. It was not a *practical* device and taught nothing to the art and was never put into use. And *all* the earlier devices, many in number, were useless to remedy oscillation and pounding, but as soon as the Brill device was brought out, all other trucks were rejected and the Brill device was "universally adopted." The Peckham Company, probably about 1892, began to sell the truck complained of, and they advertise that up to 1900 they had sold 10,000 of them. (Record p. 89.) A historical discussion of the place in the art of this patent to Peckham 419,876 will be found below at page 80.

(*b*) Judge Shipman, after an arduous contest and full hearing in the *Third Avenue* case, sustained the broad construction of Claims 1 and 2. He says:

> "The only remaining question is that of patentable novelty. It has already appeared that the *gist of the invention* is described in Claims 1 and 2. The necessity for a remedy against the pounding of the car, the importance of the result, the adoption of the invention by experienced railway superintendents, the number of previous attempts at a remedy and the barrenness of their results go far to show that the work of an inventive mind was required and was active in the invention. The testimony of the defendant's expert itself, as he goes through the history of the art and thereby points out what the patentee's combination did, as compared with previous efforts to do something, *shows that the patented improvement was patentable.*"

2. The patentee having *made the broad invention* of the use of elliptical springs (of slower action and different periodicity) combined with quick-acting spiral springs, *in the patented relation*, described one method of applying the invention and *claimed* it *broadly* in Claims 1 and 2, and claimed it *with the modification of subsequent spring compression*, in Claims 9, 10, 11 and 14.

3. Even if we admit (which we do not) that Claims 1 and 2 are to be limited to *some degree* of subsequent spring compression, then we point out (1) that Brill is entitled at least to the credit of being the first to have made the *combination* of movable and stationary frames and spiral and elliptical springs in which *either* the spiral or elliptical springs are first compressed; and (2) that the Court below *finds* that respondents' trucks *have* the element of subsequent compression of one set of springs. It cannot be argued that it makes any difference which set of springs are the last to compress. Claims 9 and 10 expressly negative this. Claim 9 refers to

the subsequent compression of *some* of the springs without specifying which, and Claim 10 refers to the subsequent compression of the *end* springs. In view of these claims and of the primacy and importance in the art of the Brill invention —"universally adopted"—it would seem a hardship to permit the respondents to appropriate it and go free by merely reversing the order in which their springs act. There is no evidence that, *in practice*, it makes any difference which set of springs compress subsequently. The theory of the patent being the *breaking of rhythm* (as Judge Shipman found), there *can* be no difference in that respect. Claims 9 and 10 were fully sustained by Judge Shipman.

Infringement of other claims, and especially of Claims 9 and 10, can be shown at final hearing. As said above, Claims 9 and 10 relate to subsequent compression as between two sets of springs, but without specifying that it is the spiral springs which are compressed before the ellipticals. Either set may be compressed after the other. Claim 9 states that *some* of the springs are compressed subsequently to other springs, which applies to all three of respondents' classes of trucks. Claim 10 specifies that the *end* springs are compressed subsequently to the other springs, which applies to their "Standard" and "Extra Long" trucks, on their own showing and as found by the Court below in these words:

> "In the car trucks of the defendants, both sets of springs are brought into action, and *begin* to compress *simultaneously* when the weight upon them is greater than the normal weight of the car."

Obviously, this is equivalent to stating that one set of respondents' springs takes the entire weight up to a point, and, after that, the other set begins to compress—which is subsequent compression of one set.

And while the respondents *allege* that their elliptical springs are stronger than their spiral springs and *call* them their *main* car springs, yet they did not offer to show *how much* stronger

they are, and it is obvious that the four elliptical springs on one of their so-called "Extra Long" trucks *cannot* be stronger, in the sense of load-supporting ability, than the twelve spiral springs on the same structure.

It should be observed that *all* the respondents' trucks have spiral springs between their saddles, or adjacent to the saddles, and their movable frames and that all their elliptical springs rest on the *extension* of their stationary frames.

4. The *drawings* of the patent show a structure in which the elliptics are brought into action subsequently to the *initial* compression of the spirals. But this is not the feature of the invention to which the respondents seek to limit Claims 1 and 2. This subsequent bringing into action of the elliptics is a feature which is incidental only to the *placing of the car body on the truck.* The moment the car body *is in place*, *all the springs* (elliptics and spirals) *are in action*, and *thereafter* are simultaneously compressed in the practical work of the truck, when sustaining either the weight of the car alone or that of the car and a load of passengers.

In Fig. 1 is shown a space between the top of the elliptic and the under surface of the coacting shoe. This space there *appears* larger than it actually is in that drawing. This arises from the fact that the draftsman has erroneously connected the *flanges* of the cap 45 by a dotted line, whereas the dotted line *should have been much lower*—about even with the *bottom of the nuts* connecting the flanges of the cap 45 with the ends 20 of the top chord.

This can be demonstrated by Fig. 2, which shows the same space, its *under* surface being indicated by a heavy black line at the *bottom* of the nuts which secure the flanges of the cap to the top chord. If the dotted line in Fig. 1 were correctly drawn, it would extend from the bottom of the nuts in that figure, thus indicating a much *smaller space* between the top of the spring and the under part of the caps than Fig. 1 would seem now to indicate.

By accurate measurement of this space in Fig. 1 with a scale graduated to 1-32 of an inch, and assuming that the wheel base is 7 feet, this space is shown to be .807 of an inch. On the assumption of a 6½-foot wheel base, it is .75 of an inch. (That these lengths constitute the usual wheel base, see Record pp. 141, 160.) These statements are amply supported by the Third Avenue Record, where at p. 340 of Complainant's Proof is shown a photograph of the first truck built (1891) by the Brill Company. The space between the elliptic and the cap is here shown, and is shown to be very slight; also, this photograph explains the error just pointed out in the dotted line of Fig. 1. At pages 155, 156 of the same record, Mr. Adams identified the photograph and testified that it "represents a truck of precisely the same kind as in Fig. 1 of the patent in suit." The attention of the Court is asked to the exact accordance of Figs. 1 and 2 of the drawings of the patent in suit (as to the parts now under consideration) with the truck of this photograph, except as to the erroneous dotted line in Fig. 1, above referred to.

The spaces between the coils of the spiral springs in the drawing are at least as thick as the coils. In the drawing there are eight or more coils to each of the spirals. The capacity of settlement of the spiral springs is equal to the distance between the coils multiplied by the number of coils. Certainly this compression may run up to 3¾ or 4 inches, as is the practice.

It will be remembered also that the patent states (p. 1, l. 100) that an "adaptation of my invention consists in making the axle-box springs [25] *comparatively weaker and slower* than has formerly been done." Therefore the heavier car body, weighing from 6,000 to 7,000 pounds, more quickly brings the weight down to the elliptics, after closing to about one-fourth of their possible movement, thus placing the car weight on the elliptics and slightly compressing them. There will then be left more than half of the residue of movement in the springs to take care of added passenger load

and other conditions such as *initial* or *partially acquired oscillation*, *unequal loading* of the car platforms, etc. The matter of relative action or movement of the springs was a matter of "graduation," of the capacity of resistance of the two kinds of springs, as Mr. G. M. Brill testified in the Third Avenue case (p. 143).

> "The spiral spring in our tests has proven that it works considerably quicker and has a longer throw to it of movement than an elliptic, consequently we, in practice, will allow the spiral spring at a certain winding to compass [compress] to a certain load and at that certain load we make the elliptic spring to come into action."

Mr. Fagan, Superintendent of Motive Power of a large Traction company, testified in that case (p. 126) that in the Brill trucks used by his company the elliptical springs were in contact with the car body when the latter were mounted on the truck; that the weight of the car body on the truck rested in part on the elliptical springs when the car body was not in motion, and that the same condition existed "when there are no passengers in the car."

Mr. Adams, truck designer and draftsman of the J. G. Brill Co. testified in the Third Avenue Case (p. 155 of Complete Rec.) that Fig. 1 of the patent in suit represented a truck "without the weight of the car body thereon," and that "when a car body is applied to the truck the spiral springs settle and allow the elliptic springs to take a portion of the weight of the body," meaning, he said, "the empty car body."

There can be no doubt that if a copy of the patent in suit were given a competent truck builder, "skilled in the art," with no other instruction than the patent itself affords, he would build a truck in which by "graduating" the springs so that the spirals are "weaker and slower" than they were formerly made, all the springs would come into bearing merely by adding the weight of the car thereto.

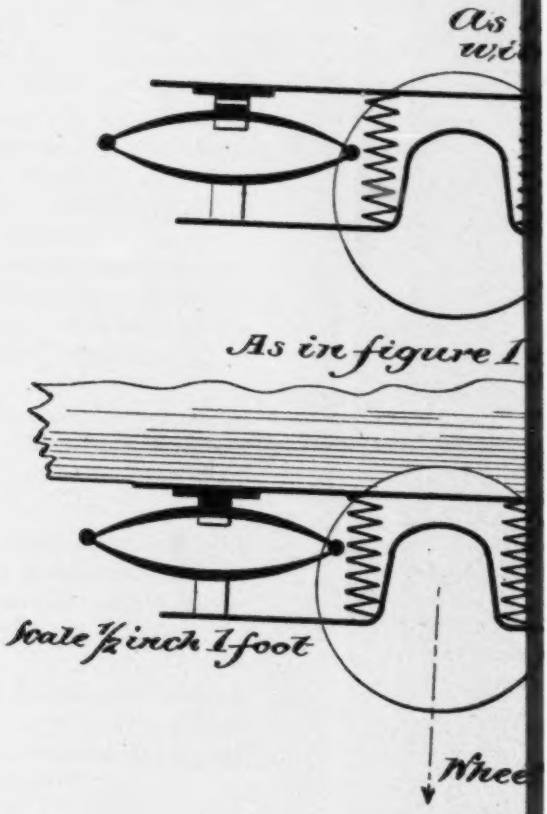
The annexed illustrative drawing is made in conformity with Figs. 1 and 2 of the patent in suit and is of the same relative size as the drawings in a printed Patent Office copy of the patent. It shows the space between the top of the elliptic and the cap in accordance with Fig. 2 of the patent drawing. The lower figure in this sketch indicates the same truck with the car body in place, and the spirals and elliptics under compression as they would be *when the weight of the car body* is placed on them. Of course this fraction of an inch of compression does not exhaust the capacity o the springs for further compression. Obviously, considerable additional spring capacity remains to sustain the added weight of passengers and to allow for movements of the car body when in motion. In this capacity for further spring resistance, the elliptical springs work simultaneously with the spirals.

We submit that the limitations on the broad Claims 1 and 2 which the Court below imposed are not warranted by anything in the patent. We shall again refer to the language of the Court below on the subject.

The opinion of the Court below sustains our position fully when it says of the claims of the patent (p. 154):

> "They were obviously framed to cover any possible theory of the invention which is hinted at in the specification, and which the exigencies of an infringement action may require."

We submit that we come within the rule of *Winans* vs. *Denmead*, 15 How. 330, where it was held that the "patentee, having described his invention, and shown its principles, and claimed it in that form which most perfectly embodies it, is, in contemplation of law, deemed to claim every form in which his invention may be copied, unless he manifests an intention to disclaim some of those forms."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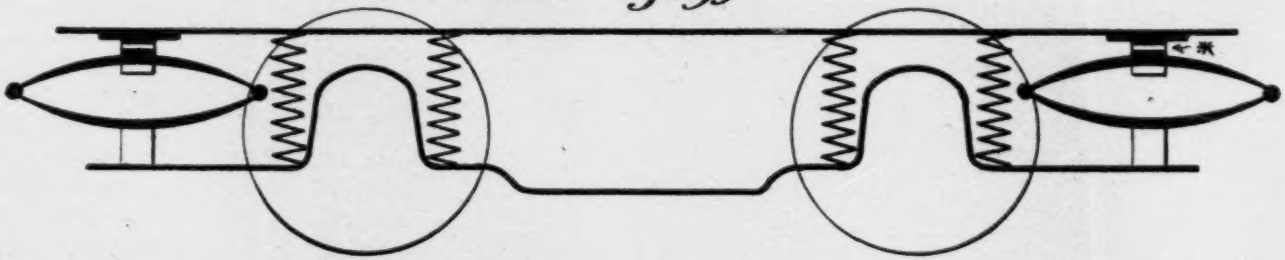
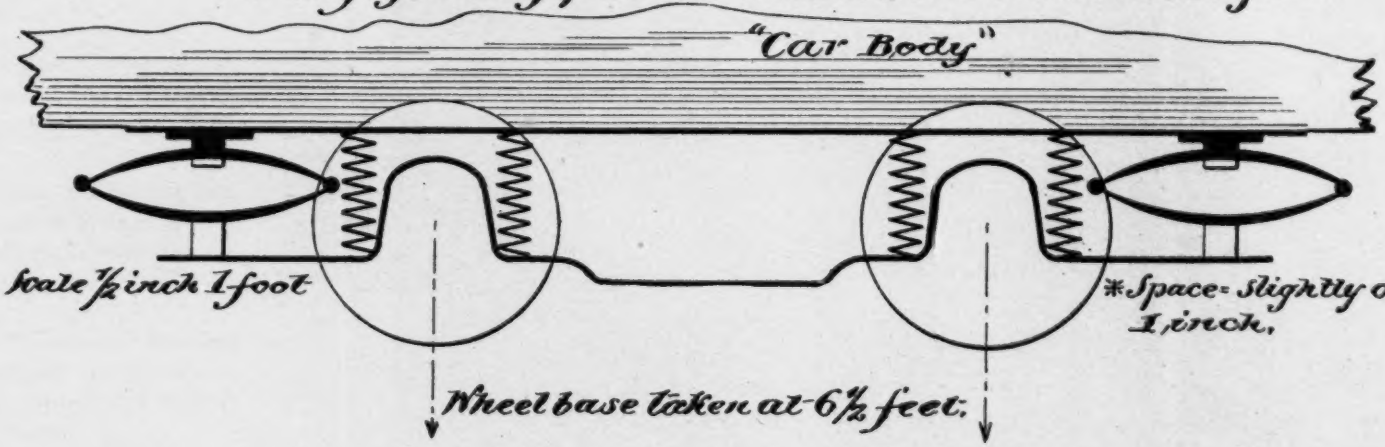
As in figure 1 of patent in suit, with car body off.



As in figure 1 of patent in suit, but with carbody on.



THE RESPONDENTS' STRUCTURES INFRINGE.

We come now to infringement. There is no dispute as to the actual construction of the respondents' trucks. They manufacture three kinds, differing slightly, and designate them as "Excelsior," "Standard" and "Extra Long." The Record shows them at page 45, which is a photograph of one of the respondents' advertisements. They are also shown somewhat more in detail in two drawings at p. 64. There are also two drawings representing "Excelsior" and "Extra Long" trucks at page 69. That the respondent corporation has manufactured and sold a very large number (10,000) of all these three kinds of trucks is not disputed.

It has been freely *admitted by respondents' counsel throughout the case* that "*if either of respondents' trucks infringe, all do.*" Therefore, the only question that need be considered is whether the respondents' **"Excelsior"** truck (p. 45) infringes upon Claims 1 and 2.

An inspection shows that the "Excelsior" truck in the first of these drawings is covered by Claims 1 and 2 as they read and as interpreted in the adjudication of Judge Shipman. He says (Record p. 141):

> "The *gist* of the invention consisted in combining with the frames of the truck and the spiral springs another class of springs, viz., elliptical springs, between the car body and the extensions of the independent frame."

The "Excelsior" truck, as they all do, certainly combines "with the frames of the truck and the spiral springs another class of springs, viz., elliptical springs, between the car body and the extensions of the independent frame."

Judge Lacombe so held (Record p. 135).

> ". . . . but the combination which Judge Shipman described as the gist of the invention is undoubtedly in defendants' structure, and under well-settled rules of

practice complainant is entitled to a restraining order until final hearing."

Mr. Livermore, in his affidavit, after observing that the "Excelsior" "has the springs in the same arrangement as shown in the drawings of the Brill patent" and describing the variation in the relative position of the springs in the "Standard" and "Extra Long," proceeds to say (pp. 114 to 116):

"It is to be observed that in Claim 1, the specific arrangement of the spiral springs (*i. e.*, their location or distribution along the space between the independent and movable frames) is not specifically referred to. Furthermore, the *specific arrangement or distribution* of the spiral springs shown in the drawings of the Brill patent is *not essential* to the proper coaction between the spiral springs and the elliptical springs for attaining the desired result of neutralizing the tendency to oscillation and therefore preventing the car from acquiring an excessive longitudinal oscillation or rocking or galloping movement. Clearly, therefore, the Peckham trucks embody the substance of the Brill invention and are literally covered by the language of Claim 1 of the Brill patent.

"In Claim 2, the spiral springs are referred to as located between the saddles and movable frames. The saddles and stationary frame constitute substantially a single rigid structural element, *and it is immaterial whether the springs rest directly upon the saddles or upon the frame adjacent to the saddles.* It is only necessary that they should be distributed *sufficiently lengthwise* of the independent frame and car body to form an efficient and stable support for the car body. For this reason, I regard the arrangement embodied in the Peckham 'Standard' and 'Extra Long' trucks, in which the inner spiral springs are arranged on the independent frame close beside, instead of directly upon, the axle-box saddles, and the outer

spiral springs are arranged at the extreme ends of the independent frame, as being a substantial equivalent for the arrangement recited in Claim 2, so far as the following elements, viz., spring supporting frame supported upon the running gear by saddles, and the movable frame, and interposed spiral springs,—are concerned, and said Peckham trucks clearly contain these elements in combination with the elliptical springs, which *combination* is the characteristic or novel feature of the Brill truck.

"It is clear that both the Peckham 'Standard' and 'Extra Long' trucks have elliptic springs, combined with the spiral supporting springs, and arranged as shown in the Brill patent over the end extensions of the independent frame, and thus near the ends of the car body, where they will be effective in checking the rocking movement of the car body. It seems obvious that there is no reason for adopting the elliptical springs in these Peckham trucks other than in order that they may cooperate with the spiral springs in order to prevent excessive endwise oscillation or galloping movement of the car body, the same as is done by the like combinations of elliptical and spiral springs in the specific arrangement shown in the drawings of the Brill patent."

The petitioners produce the evidence of three experienced street railway men who state that the method of operation of the respondents' trucks is the same as that of the patent in suit in breaking up rhythm and thereby lessening oscillation. Thus Fagan testifies (Record p. 50):

"I believe that the combination of spiral and elliptic springs on the extended spring base of the Peckham 'Standard' and 'Extra Long' types of trucks, operates in the same way as they do when they are combined and arranged as on the Peckham 'Excelsior' trucks and on the Brill 'No. 13,' [the truck of the patent in suit] and,

in use, have the same or a similar effect in preventing or lessening the galloping motion of the car."

Littell testifies (Record p. 53):

"I am familiar with the four-wheel electric car trucks that have been manufactured by the Peckham Motor Truck & Wheel Company, of Kingston, New York, for some years past, and known in the trade as 'Excelsior,' 'Standard,' and 'Extra Long.' In my opinion, the operation of the said combination of elliptic and spiral springs as arranged on the 'Standard' and the 'Extra Long' trucks is the same as that of the combination of elliptic and spiral springs as arranged on the 'Excelsior' and on the Brill 'No. 13' truck. The combination of elliptics and spirals in all four of said constructions to break up the rhythm or period of the oscillation of the car bodies when in motion and thereby lessens or prevents the galloping or rocking motion of the car."

Akarman testifies (Record p. 56):

"A combination of elliptic and spiral springs arranged as on said 'Standard' and 'Extra Long,' trucks operates in the same way as the combination thereof arranged as in said 'Excelsior' truck and in Brill 'No. 13,' (the truck of the Brill patent in suit), in my opinion. In all four trucks the rhythm is broken up, and the result is that the rocking or galloping motion is done away with."

Even with a Limitation placed upon Claims 1 and 2, the Respondents infringe.

Again, admitting (which we do not) that the Court below is, in part, correct in limiting Claims 1 and 2 to an arrangement having some degree of subsequent compression of one set of springs, the respondents' trucks have *in fact* the element

of subsequent spring compression, and infringe upon those claims as so limited. The argument will be in part a repetition of what precedes.

The opinion of the Court below specifically finds that the respondents' trucks have this element of subsequent spring compression (p. 150).

By placing its finding side by side with the following language of the specification, it appears that the degree of subsequency found by the Court in the respondents' trucks is even greater than that disclosed in the specification.

The respondents' truck as described by the Court below:

"In the car trucks of the defendant both sets of springs are *brought into action and* **begin to compress simultaneously** when the weight upon them is *greater* than the *normal weight of the car.*"

The language of the specification:

"I supplement the axle-box springs by placing elliptical springs . . . and so arrange them in respect to each other that the elliptical springs *will not come into play* until after the axle-box springs have **begun to compress.**"

"The spiral springs . . . normally take the *weight of the car.*"

The respondents' elliptical springs, therefore, as found by the Court below, must support *at least* the weight of the car before *any weight* comes on their spiral springs, and this is certainly equivalent to stating that there *is* subsequent compression of the spiral springs in their trucks.

Just *how heavy* the load must be *before* both sets of springs thus cooperate, either in the respondents' truck or in the truck of the patent, it is, of course, impossible to specify, and the patent in suit does not attempt to specify. In two places

(p. 1, l. 73; p. 2, l. 3) that patent speaks in a general way of the "abnormal depression" of the spiral springs, but this phrase clearly has no *definite* significance. It would seem, however, to correspond in its scope to the language just quoted from the opinion of the Court below in which reference is made to the "normal weight of the car" in connection with respondents' trucks. The fact is that in both respondents' trucks and the truck of the patent, one set of springs first comes into action, and thereafter both sets co-operate to sustain the load and to lessen the objectionable oscillation. The *exact relative adjustment* as between the two sets of springs *is a matter for the practical spring maker* or car builder who *regulates* it to produce an *easy-riding* car under varying conditions of load.

Observe that by merely tightening the nuts 24, 27 (Fig. 1 of the patent in suit), all the springs will at once be brought in contact with the upper chord.

But we submit that "*abnormally*" in the patent is not to be given any *controlling* weight, for this reason:

On p. 2, l. 126, the patent states: "The elliptical springs will not come into play until after the axle-box springs *have* BEGUN to compress." This language is quite distinct from "abnormal compression" used in the earlier part of the patent and indicates about the same degree of subsequent compression as the Court below finds in respondents' trucks. Why should the Court below rely upon the words "abnormal compression" to strike down the patent while giving no weight to the equally important language just quoted, which clearly shows that the patentee did not attach any special importance to the words "abnormal depression" used in another part of the specification? This subject will be again referred to at p. 100.

If it be argued that the subsequent compression referred to in the patent in suit must relate to the elliptical springs, it is a sufficient reply to say that Claims 9 and 10 both relate to successive compression as between two sets of springs, but without specifying which set of springs are to be compressed

first and which class compressed last. Rhythm of oscillation is equally broken in either case, and that is the distinctive method of operation of the Brill invention.

It is wholly unimportant *in pratice* and immaterial to the present issue whether it is the elliptical springs or the spiral springs that mainly support the car with a light load, and, conversely, which class are subsequently compressed. In fact, we do not understand that anyone has alleged that there is any difference in practice in this respect.

We add that in respondents' "Extra Long" truck, which has *twelve* spiral springs and only *four* elliptic springs, the *twelve spiral* springs are *necessarily the main car springs* and the four elliptic springs must necessarily be subsidiary springs, supplementing the spiral springs and acting by subsequent spring compression, and the same is true of their other forms of trucks which have eight spirals and four elliptical springs each.

The petitioners averred in their petition that they expected to be able to prove, from published statements of the Peckham Company (and they would have proved this on the motion for a preliminary injunction, if it had not been unnecessary under what was understood to be the established practice of the Court below in such cases), that the spiral springs of the respondents' trucks are *in fact* their *main* car-supporting springs, and that they do in fact support the greater part of the weight of the car body and its load, and consequently that the respondents' elliptical springs are those which come under subsequent compression "when the weight upon them is greater than the normal weight of the car" (Judge Wallace's opinion). The *four* elliptical springs on the "Extra Long" truck certainly cannot be stronger than its *twelve* spirals. It is well known and is recognized in practice that spiral springs more quickly respond to changes in the load and are therefore more desirable as the *master* springs.

THE ALLEGED PRIOR ART SET UP BY RESPONDENTS.

The respondents rely upon and the Court below refers to only two patents.

1. Manier, No 409,993, granted August 27, 1889.
2. Peckham, No. 419,876, granted January 21, 1890.

With regard to both of these it is to be observed:

1. That both patents were fully fought over in the *Third Avenue case;* both were fully considered by the experts therein; and Judge Shipman held that neither anticipated in or imposed any limitation upon the claims of the patent in suit.

2. That both of these patents were cited as references in the Patent Office on the application for the patent in suit, and both were withdrawn by the Patent Office, as not affecting Claims 1 and 2 of the patent in suit, which were allowed by the Patent Office precisely as filed in the original application. This appears by the Record in the Third Avenue case before the Court.

It will be shown in a later part of this Brief that the complete conception of the invention by the patentee, Mr. G. M. Brill, antedated the date of issue of both of these patents, the facts as to which the petitioners claim a right to establish by proofs for final hearing.

We may here state, by way of preface, that counsel for respondents, referring to these two patents in his brief of argument in the Court below, expressly admitted that the overcoming of oscillation "*by so combining elliptical and spiral springs in a car truck that the rhythm of the one should overcome that of the other, is not foreshadowed in any way in either the Manier or Peckham patents.*"

The Manier Patent.

The Manier patent is not, as counsel for the respondents has frequently stated, for a *combination* of spiral and elliptical springs. One of the drawings shows spiral springs only and the other shows elliptical springs only. The Court below states that "this patent shows every element of the first claim of the patent in suit broadly considered, *except the conjoint* use of spiral and elliptical springs." The exception is *vital* and removes this patent from the need of further consideration. The learned Court below finds that Manier "does not show the combination of the second claim." During the hearing below, the presiding judge of the Court below, after an inspection of this patent, stated to counsel, in effect, that he did not consider it as of any relevancy in the case.

Judge Shipman pointed out that Manier's only thought was the "mounting of the body springs *forward* of the axles," and that "the springs, or the kind of springs, which he was to use are *no part* of his invention." Judge Shipman further said:

> "Manier's invention was entirely apart from that of Brill, and had no conception of its character. . . . Manier's invention was not designed, nor adapted, nor used for the performance of the function performed by Brill's device, nor was the way to accomplish Brill's result suggested by Manier's invention (*Topliff* vs. *Topliff*, *145 U. S. 156*)."

Manier was one of the entirely unsuccessful attempts made in the early days of electric street railway propulsion to remedy the pressing evil of oscillation. Of these attempts Akarman speaks in his affidavit on behalf of the petitioners and his statement was not disputed. He says (p. 55):

> "This type of truck [the Brill truck] has gone into universal use under four-wheel cars, and has substantially,

if not completely, displaced all other constructions of single trucks."

The learned Court below now nowhere points out the extent to which it considers that the Manier patent imposes any limitation upon the broad invention of Claims 1 and 2. It need not be further considered.

The Peckham Patent, 419,876.

In restricting Claims 1 and 2 to a narrower scope than their terms import and than the original invention of the patentee and than that given to these claims by Judge Shipman, the opinion of the Court below relies solely upon the Peckham patent, 419,876.

It must be borne in mind that every presumption is against this Peckham patent disclosing a structure having the same mode of operation as the Brill combination of springs, for it appears that Peckham, in all his three types of trucks here complained of as infringements (Record p. 45), combines with the spiral springs full elliptical springs, *located between the extended sections of the sides of the upper chords* and *of the side beams, precisely as Brill did*, and *has not used* the transverse semi-elliptical springs of this 419,876 patent, nor its type of *truck frame*.

In fact, this Peckham patent is a mere paper patent. Neither Mr. Peckham in his affidavit describing various forms of car trucks used by his companies from 1888, nor any other of respondents' witnesses, suggests that a single truck of the construction shown in this Peckham patent has ever been manufactured or sold by Mr. Peckham or either of the Peckham companies, *or used by any street railway company*. In fact, as is shown by the Record (p. 56), the Peckham Company continued up to 1895 to advertise car trucks supported by sets of *spiral* springs only; and it was after the issue of the Brill patent and the wide adoption of the Brill invention,

that the Peckham Company began the use of its infringing constructions, and Peckham applied in 1894 and in 1895 for two patents, Nos. 555,530 and 563,685 (now before the court), which show the combination of spirals and full elliptics on the side beams, here complained of as infringements.

Fagan, Littell and Akarman in this Record, all men of wide experience in this business, describe a number of trucks which had been used in this art since its infancy, but they do not include the truck of 419,876 among them, though they clearly mean to describe all the various methods of spring construction which had been adopted prior to 1890-91 and found to be failures.

Judge Shipman held in the *Third Avenue* case, in the most emphatic language, that the Peckham patent was irrelevant because the construction "*has not the conjoint action of the patented combination, nor does it perform the function of the Brill device ;*" and pointed out that defendants' expert in that case had not *referred* to this patent in his direct examination as one of the "*best anticipations.*"

The Peckham patent, 419,876 (Figs. 4 and 5), *is radically different from that used by Brill and from the respondents' infringing truck, not so much because* it has *a semi-elliptical* spring, as because there are no elliptical or semi-elliptical springs *located between the extended sections of the upper chord and the side beams* to support the car body at *each of its four corners ;* on the contrary, each of the two semi-elliptical springs is carried across the truck transversely, so that it comes into contact at its middle point with a supplementary transverse truss at the front or rear of the car body, and its ends *play loosely* in shoes on the lower beams.

And these beams are *loosely* hung from the axle boxes, and have themselves both *transverse and longitudinal pivotal motion.* The corners of the car have no support, and the pivoted, loosely moving side beams furnish no substantial and stationary support for the semi-elliptic springs, nor any of the

car springs, which is an *essential requirement* of the Brill patent in suit.

It has spiral springs grouped about the wheels, *i. e.*, not far from the middle of the truck, measured lengthwise. Under each end of the car it has a single point of support on the longitudinal *centre line* of the truck. Obviously, a car body with its overhanging platforms loaded with passengers and running at speed would acquire an irregular oscillating movement, by reason of the absence of support at the four *corners* of the car platforms which would be most objectionable to the passengers, and which, by reason of its torsional nature, would be destructive to the car and truck parts themselves. It would set up rather than lessen oscillation.

For these reasons the Peckham device was *not a truck capable of use.*

Again, as showing that the truck structure of this Peckham patent, 419,876, was not considered a practical truck, even by the inventor, or by the Peckham Company, it appears that the application for these letters patent was filed September 2, 1889, but that in October, 1889, Peckham and his then Peckham Street Car Wheel & Axle Company, of which he was president, was advertising, "an improved truck for street cars" which was stated by him or by the Company in that advertisement to be "an admirable solution of the problem" of how "to prevent rocking or oscillation" of cars. A cut of this "improved truck for street cars" is shown in the present Record at p. 40 (Exhibit A). It is *not* the truck of patent 419,876, but is a truck having all spiral springs and having the *frame of the patent in suit.* The advertisement (printed at p. 32 of this Record) proceeds to state in regard to this "improved truck": "This arrangement, as will at once be seen, must entirely prevent any rocking motion and the car ought to ride as smoothly as any steam railway passenger coach on its double trucks." The truck *had no elliptic or semi-elliptic springs* and its springs were *at the corners.*

As said before, nowhere in respondents' affidavits is reference made to this Peckham patent, 419,876, as a practical or operative device. Certainly, Peckham would have sworn that it was an operative truck and had been used, if such had been the case.

It is most significant, too, that this Peckham device was gotten up by one who, at the time, was a truck builder, and who, therefore, must have endeavored to put it on the market, and who would have done so if it had been *capable of practical use*, especially at a time when the street car companies were *all looking anxiously for a truck* with which they could run their cars at the required speed.

It is also very significant that 15 days after he applied for patent 419,876, he applied for a patent (419,877) in which he entirely abandoned the mode of construction of his patent 419,876 and directed his efforts in an entirely different line of construction, along which latter line, as shown by his patents, he subsequently worked.

Patent 419,876 states that *spiral* springs may be used on the extended side beams, or that a *transverse* semi-elliptic spring may be used. Figure 1 shows *spiral* springs on the extended side beams. This construction differs entirely from that shown in 419,877, which *latter* construction was at once *advertised* (October, 1889) as "Peckham's Non-oscillating Motor Truck" (see Exhibit A, p. 40 of Record), and with slight changes, and with *all spirals*, continued to be advertised by Peckham till 1895 (Curwen, p. 56, 57 of Record). Obviously, therefore, the *transverse* half-elliptic spring of 419,876, was a mere suggestion, of no value and never put in actual practice.

And the affidavit of S. M. Curwen (at page 56) shows that in June, 1890, the Peckham Company advertised trucks with six spiral springs on each side and warranted them "to prevent oscillation," and continued to advertise them up to October, 1895. This is the necessary inference from Mr. Curwen's affidavit, which is not denied in any of the respondents' affidavits. And Peckham's patent, 563,685, applied for March 12,

1894, issued July 7, 1896, shows further the abandonment of the device of 419,876.

The Court below, in considering the Peckham patent 419,876 as imposing a limitation upon Claims 1 and 2 of the patent in suit, quotes, in its opinion, the words of the Brill patent (p. 1, lines 66-69), "*between the extended sections of the upper chord and the side beams* I place elliptical springs, which *preferably* extend *longitudinally* of the truck;" and, we submit, misinterprets that language. For that Court deduces from this passage the conclusion that "the circumstance that the semi-elliptical springs of the Peckham patent extend *transversely* instead of *longitudinally* is, therefore, immaterial." But the *point* of this passage in the patent is that the *four elliptical springs support the four corners of the car*, and, to effect this result, are placed "between the *extended sections* of the upper chord and the side beams." *In this location* each of the four springs may extend either *longitudinally* or *transversely*, although obviously, the longitudinal is the preferable position, as the patentee says. But Peckham's semi-elliptical springs are not between *the longitudinal extensions of the upper chords and the side beams at all;* each is between the two side beams and a transverse truss, and, therefore, each of the four corners of the car is left without any proper support, a construction which would be wholly inoperative in practical use. Judge Shipman had this distinction in mind when he states of the Peckham patent:

> "The upper beams are supported on *spiral* springs on *the axle boxes.*"

The distinction is not, as the Court below seems to suppose, *in which direction* the elliptical springs extend, but *where they are located.*

This matter of the *location* of the elliptical springs is mentioned over and over again in the Brill specification. For example, page 2, line 122:

"By placing elliptical springs of slower action *between the extended portions* or sections of the side beams and upper chord."

Line 130:

"The devices which secure the elliptical springs *between the side beams and the upper chord.*"

Page 3, line 26:

"The [elliptical] springs are *rigidly secured to the side beams.*"

Line 71:

"A portion of this action would be taken on the springs *supported on the ends of the side beams.*"

We may add that the *means disclosed* in the patent in suit for connecting the top of the elliptical springs with the upper frame or chord *would not permit of the transverse* disposition of the elliptical springs. "Preferably," therefore, as used in the passage cited, is mere surplusage.

There is *a vital difference* between the location of the petitioners' and respondents' elliptical springs, on the one hand, and the location of the semi-elliptical spring of the Peckham patent on the other. Not only had Peckham in his patent *no notion of the utility* of combining elliptical and spiral springs (as is evident both from the language of this patent and from his own subsequent conduct and patents, as we shall show more fully hereafter), but the construction shown by him in figures 4 and 5 of this patent was *not practical* even for the purposes of its intentional construction.

We deem it necessary, at the risk of some repetition, to set out in detail some further, and as we believe, pertinent, considerations as to this subject.

We will consider this Peckham patent,

A. As to its frame.
B. As to its springs.

A. *The frame of the Peckham patent. It is not the frame of the patent in suit.*

The construction of the Peckham frame is entirely antagonistic to the purposes and functions of the "side beams" or stationary frame of the Brill patent in suit. It is a distinct departure from the line of development disclosed in that patent.

In the Peckham patent *all of the car-supporting springs* are supported upon parts which are both *transversely* and *longitudinally movable* with relation to the axle boxes and car body. In the patent in suit the car-supporting springs are *supported* upon a *stationary truck frame or side beams.* This is a fundamental difference, both in construction and in function.

The spring-supporting frame of the Peckham patent 419,876 is a movable frame, so intended and so constructed. There are no saddles forming part of a stationary frame which is, as the patent in suit says, "not affected by the movement of the car body to any appreciable extent . . ." The frame, indicated generally by the letter A^1 throughout the drawings of the Peckham patent, is designed to have a longitudinal and transverse swing relatively *to everything that is above it.* Fig. 3 of the patent shows the so-called saddles as separate pieces S S apparently pivotally supported on the axle boxes by a *round bolt.* These so-called saddle pieces have ears and pendant portions which support a pin which pivots a hanger *e* thereto. A pin *d* passes through the lower end of the hanger parallel with the axle and pivotally supports a strap *h* which is *pivotally connected* to the beam A^1. This construction permits of a lateral swing of the so-called saddles S S on the axle boxes; a further swing laterally of the hanger *e* from the lower end of the saddles; a *longitudinal swing* of the straps *h* on the pin *d* at lower end of the hangers *e;* and a longitudinal swing of the beams A^1 on the straps *h*. The lower ends of the straps *h* are rounded to provide a *rocking surface* for the beams A thereon.

The construction at the right hand of Fig. 4 of the Peckham patent involves the lateral swing of the saddles S and beams A^1 from the top of the axle boxes and an independent longitudinal swing of the beams A^1 from the bottom of the saddles.

It, is therefore, manifest that the beams A^1 are intended to have both a lateral and longitudinal swing. The frame would be entirely impracticable for reasons hereinafter set forth.

The opinion of the Court below, referring to this Peckham patent, states that: "It also shows saddles mounted like those of Brill upon the axle boxes." But this is erroneous. The so-called saddles S S are not saddles in the sense of the patent in suit. They are not rigidly connected to the beams A^1. These so-called saddles S S are not the saddles of either the Brill patent in suit or of the respondents' trucks. (And we may add that they are not the saddles (the equivalent of the Brill saddles) shown in all of the Peckham patents subsequent to the one now under consideration).

In the form shown at the left hand of Fig. 4, the spiral springs are not equivalent to the axle box or car-supporting spiral springs of Brill. The springs (left hand, Fig. 4) take the place of mere rubber cushions 5^1 of the patent in suit.

In the *operation* of the Peckham truck, not only would the springs t (Fig. 1) or the so-called semi-elliptic springs t^1 (Fig. 4) be subjected to torsional strain, which they are not intended to bear, but the strains of the motor propulsion of the car would come upon the spring posts and springs t (in Fig. 1) or upon the outer ends of the transverse so-called semi-elliptical springs t^1 (in Fig. 4). At the same time, a like abnormal strain, although to a less extent, would be imposed upon the springs C and their posts which pass through the ears of the saddles S. Such a construction would, in use, be absolutely impracticable and dangerous.

The transverse swing of the beams A^1 also either puts a stress on the springs t^1 in the direction of their length or

moves the beams against the friction of their sliding ends, thereby producing unusual strains.

From any point of view, the beams A[1] and the saddles supported on the axle boxes, as well as the springs which they each support, are at all times intentionally subjected to the stress of propulsion and to the horizontal surging of the car body either longitudinally or transversely.

Clearly this Peckham patent does not involve or disclose in any way the *frame construction* recited in Claims 1 and 2 of the patent in suit.

Furthermore, this Record shows that the respondents, immediately after an application was filed for a patent on this truck (September 2, 1889; executed August 24, 1889), *adopted an entirely different truck structure*, and continued to use the latter form from that time until the present. Thus, in the advertisement of the Peckham Company in the Street Railway Journal, October, *1889* (Record, p. 40), is shown an entirely different frame, *i. e.*, one having *all* of the characteristics of the *stationary frame or "side beams" of the Brill patent in suit* (except that it is *rigid* on the axle boxes, metal to metal, without an intervening rubber or other cushion). And this different stationary frame ("side beams") is found in *every Peckham patent* granted upon an application filed subsequent to September 2, 1889, beginning with patent 419,877, filed September 17, 1889, and ending with his patent 599,474, application filed April 6, 1897 (making twelve patents in addition to the two previously mentioned), and we find it also *in the three forms of respondents' trucks complained of* (*see Record, p. 45*). *In all of these, the Brill form of stationary or independent frame or "side beams" is present and the transversely and longitudinally swinging frame of the Peckham patent 419,876 is absent.*

This clearly indicates *an acknowledgment of the entire impracticability of the movable spring-supporting frame shown*

in Peckham 419,876. Its entire rejection by the Peckham Company seems to admit its lack of structural and functional identity with the frame which is an element of the combination in Claims 1 and 2 of the Brill patent in suit, and which has been "universally adopted" in the trade.

B. *The spring system of Peckham patent 419,876. It does not disclose any suggestion of the spring combination of the patent in suit, nor its mode of operation, nor any construction which will secure the results of that combination.*

Claims 1 and 2 of the Brill patent in suit recite the spring combination substantially as follows:

Claim 1: "*Spiral springs* located between the *movable and stationary* frames, and elliptical springs located between the *extended sections* of the *said rigid frame*, substantially as described."

Claim 2: "*Spiral* springs located between the *saddles* and *movable* frame, and *elliptical springs* located between the *spring-supporting frame* and the *movable* frame, substantially as described."

We have just shown that the Peckham 419,876 patent does not show a *stationary spring-supporting frame and* springs of any kind *extending between that frame and the movable frame.* It will now be shown that it never recognized any virtue *of one kind of a spring over the other and never appreciated* that the inharmonious rhythms of *different kinds of springs* could be employed advantageously. The patent did *not even employ the so-called semi-elliptic spring in such a way as to obtain the advantage of its peculiar characteristics in the combination.* Certainly the patent does not disclose the Brill combination. The arrangement of the spring t^1 is transverse *and it bears only at one point, centrally of the*

car body. If Peckham had desired to *avail himself* of the characteristics and virtues of *the leaf spring*, as Brill has taught the art, he would have *disposed it longitudinally of the truck between the extensions* of the beams A^1 and the beams A, *one at each corner*, as he did the spring t (Fig. 1).

The fact must not be lost sight of that in this patent the beams A^1 A^1 are positively and *intentionally constructed with a view* to providing both a *longitudinal and transverse* swing, and that such longitudinal and transverse swing of the beams is *claimed as a feature of construction in this patent.* (See Claims 5, 6, 7 and 8 especially). Thus it is clear that strains foreign to those for which the semi-elliptic springs are designed to bear are imposed upon their ends. While this is going on (and possibly one of the beams A^1 working in opposite direction to the other, or both in the same direction), the ends of the springs are subjected to torsional strains which impair their action even as leaf springs.

Furthermore, in the Peckham patent, the *spiral springs* in Figs. 4 and 5 are not between *the stationary or independent spring-supporting frame* and the car body, but are placed *between the axle boxes and the car body.* This is obviously true in respect to the left hand of Fig. 4, and as to the construction at the right hand, the so-called saddles are no more than ears movably secured upon the axle boxes instead of being integral therewith, as was a well-known form of construction.

Again the semi-elliptic spring t^1 of the Peckham patent 419,876 *slides in shoes* on the beams A^1. This produces friction between the ends of the springs and the shoes on which the ends rest, in addition to the friction of the leaves of the spring itself, thereby differing essentially even from a full elliptic spring placed in the same position. The greatest resistance to pressure of the semi-elliptic spring is at the middle, where it is thickest, and the least resistance is at its end, where it is thinnest. At its ends, therefore, arranged as in the Peckham patent, it does not co-operate with the other car springs as it would if it were arranged longitudinally

in line with the other car springs. Further, by placing the full elliptic springs *on the side frames in line with the car spirals, the full power and strength and all of the characteristics of a complete leaf spring* are utilized to act in concert with the other springs. No such action could be possible with the semi-elliptic spring as arranged in the Peckham patent.

This truck, so far as relates to the combination of springs shown in Figs. 4 and 5, tends first to invite and then to increase rather than decrease or obviate longitudinal oscillation or galloping. It is a step backward in the art and in practical efficiency even from the end spiral form shown in the other figures of the same patent.

The Court below, in this connection, quotes a statement made by complainants' expert (in the *Third Avenue case*) to the effect that the construction shown in this patent "embodying the semi-elliptic springs would measurably attain the result that is attained by the conjoint use of the spiral and elliptical springs as embodied in the Brill truck, and that a car having the truck structure shown in Figs. 4 and 5 of this Peckham patent would be less liable to excessive longitudinal oscillation than any of the trucks of the prior art *heretofore* considered."

Now, it is clear that the complainants' expert here fell into the error of merely considering *the presence of semi-elliptic springs* in the Peckham structure without investigation as *to the effects of their position and their action in the structure in which they are shown.*

Instead of being "less liable to excessive longitudinal oscillation than any of the trucks of the prior art heretofore considered," as complainant's expert stated, the exact contrary is true. *The fact is that, as these semi-elliptical springs are employed, they set up and promote oscillation.* The reason is plain :

It must be understood that the forces which tend to cause the car to oscillate or gallop on the track are mainly irregularities in the track or roadbed. These irregularities do not occur simultaneously on *both sides of the track*. Where there is a loose rail joint, it is only on one rail (the rail joints being staggered); where there is an obstruction, as a stone or the like, it is on one rail; where there is a depression, it is not usually on both rails. In other words, the causes which initiate oscillation operate through the wheels *on one side* of the truck and thence upwardly *on that side* to the car body, affecting the truck frame and springs in its upward course. It is clear, therefore, that a car body which *is balanced at its centre line upon two springs*, which are weakest at their ends where they rest upon the truck frame, will not only *permit* a vertical vibration of the spiral car-supporting springs set up by any cause, *but will aid in its continuance*. The obstruction impacts upon one or the other of the wheels, lifting them violently, and compressing the spiral springs, which may either lift one end of the car body on an even plane or tilt it over to one side, and thereby set up either transverse oscillation or a longitudinal oscillation, or a compound of both of these, viz.: a diagonal swaying of the car.

It is clear, therefore, that what complainant's expert inadvertently found in patent 419,876 (that it would "measurably" attain the result of lessening oscillation) does not, in fact, exist.

If so, why did not some one build such a truck at that early period in the art when oscillation was considered in the trade a most serious evil, and when the trade and the truck builders were looking eagerly for a truck which *would lessen* it? The fact that no one ever appears to have done so and that, as we shall now show, even *Peckham himself rejected it* in all his subsequent patents and advertisements and in his practice, seems clearly to lead to the conclusion that instead of "measurably" preventing oscillation of the car body on the truck (whether transverse or longitudinal or diagonal) it was adapted to set it up and

continue it. Undoubtedly it was the appreciation of this fact that forced Mr. Peckham to discard altogether this method of construction.

That he did discard it is shown:

From the 17th of September, 1889, when Mr. Peckham filed his application for patent No. 419,877, up to the 11th of June, 1895, at which time he applied for his patent No. 555,530 (between which dates he had applied for and obtained at least ten patents), and even to the last of his patents, No. 599,474, applied for April 6, 1897, *not a single, one of his trucks had a car-supporting spring located between the side frames of the truck so as to bear on the car body centrally.* On the contrary, *every one* has the springs *ranged in longitudinal alignment on the side frames from end to end, the four corners of the truck being provided with springs to support the car body at each side over the side frames.*

And it is also shown that the art rejected the frame and spring system of this patent. All the patents in this case, both of the prior art and those subsequent to Brill's invention, with but two possible exceptions, *have disposed their car-supporting, oscillation-preventing springs on the extensions of the truck frames, all longitudinally in alignment.* That is, as to the end springs, they extend between the extensions of the truck frame directly upward to the extensions of the movable frame or car body, thereby supporting the car body *upon the four corners of the truck and at the sides of the truck.*

The two exceptions are Figs. 4 and 5 of the Peckham patent under consideration and the patent (referred to in the respondents' answer) to Taylor, No. 437,167, dated September 23, 1890, in which an elliptic spring is disposed centrally of the truck, by way of a vague and immaterial modification. But even in this Taylor patent *all* of the springs, which are *full elliptic springs* (eight altogether), *are disposed close to the side frames of the truck throughout.*

It appears, therefore, that Peckham 419,876 stands *alone* in the art as employing a leaf spring with a *bearing at its middle point upon the centre line of the car*, and *with its ends* (*the weakest part of the spring*) *bearing on the side frames.*

These matters are here considered merely in their historical aspect; the question of how much of the Brill invention Mr. Peckham would have made had he ranged the semi-elliptic springs, two at each end, on the frame extension and longitudinally, is not under discussion. Whether or not Peckham appreciated the invention of the Brill patent *in any aspect*, and provided means for accomplishing its results, is, considered historically, and not conjecturally, the question under discussion.

It is, therefore, clear that if viewed historically, Mr. Peckham, in this patent, never contemplated the conjoint action of the springs of the Brill patent, no matter how they are viewed, nor did he provide a combination of elements which even suggest the coactive relationship and the result-producing characteristics of the Brill combination. His structure shows nothing which could even be *modified* so as to meet the combination of the Brill claims.

And he could not (then nor until years thereafter) have appreciated that there was any difference in the conconjoint action of *leaf and spiral springs over and above the use of all spiral springs*, because he employs the leaf spring in this *truck manifestly in a way that completely* negatives any characteristic of the leaf spring being used in a coactive combination with spiral springs, at least for the purposes of the Brill invention.

Respondents urged, in discussing the Peckham patent 419,876 in their brief in opposing the application for the writ, of *certiorari* that the fact

> "That the combination of the patent in suit supports the corners of the car better than does that of this Peck-

ham patent, would seem to be quite immaterial. The question is not whether this Peckham patent anticipates the patent in suit, but whether it limits *by showing the combination of elliptic and spiral springs in a car truck to overcome galloping.* The drawing and specifications of this Peckham patent show and describe this combination, and the specification states explicitly it is for that very purpose."

To this we reply that the truck of the Peckham patent (Figures 4 and 5) does not show such a combination nor does it support the car *at* the corners at all.

This is *material*, since, with the *corner* support, the car is *properly supported;* and without it, as we show above, the car is *invited* to oscillate. It is quite *material*, since no one prior to this Peckham patent, nor since it, even including Peckham, ever supported the car body *except at the corners.*

This Peckham patent does not show "the combination *of elliptic and spiral springs*" *at all*, nor any *arrangement, disposition*, or *suggestion of the same.* Its "drawings and specifications" in no way *suggest the same.* They certainly do not "show and describe the combination."

The respondents' brief below says, as to the Peckham patent: "How could the Court decide otherwise than that this Peckham patent precluded any broad subsequent claims for this combination, and limited the complainants to their own construction."

The Court below does not hold that the patented combination is present in the Peckham patent; it holds that that patent points the way to substitute elliptics for "so-called semi-elliptic" springs, which substitution it holds, while producing "an improved result," does not produce "a new result."

Therefore, if it is *material* that the *corners* of the car body be supported, then this Peckham patent clearly fails to show the embodiment of any feature of the Brill invention.

Respondents in their brief opposing the application for the writ also say, referring to p. 1, that—

> "The specifications of the Patent-in-Suit, however, make it quite immaterial whether the axle-box frame is *rigidly or flexibly supported from the saddles or pedestals.*"

Counsel apparently did not understand this point, or he would not have made such a statement. The specification says nothing about "rigidly or flexibly" supporting the "axle-box frame," (stationary frame or side beams) from "the saddles or pedestals." The "saddles 6, 7" are not termed "pedestals." The *saddles are secured rigidly* to the bars 12, 13, 14, which compose the "side beams."

As Judge Shipman said (p. 237):

> "In the patented structure a pair of *rigid* longitudinal side beams, which derive their support from the axle-boxes, extend lengthwise of the truck beyond the wheels at each end."

On the other hand, the Peckham patent shows the side beams *pivotally* connected with the axle-boxes, so as to be able to swing back and forth transversely and longitudinally—a perfectly useless construction, which has never been practically used.

The only motion of the side beams or saddles in Brill is on the *rubber cushion* 5[1] or with the axles when they thrust. In this is the clear distinction (elsewhere more fully developed) between the *movable spring supporting frame of the Peckham patent and the "rigid or stationary frame" of the Brill patent in suit.*

This shows how respondents' counsel has fallen into error, and how his conclusions, therefore, do not apply and why the Court below was in error in finding in Peckham even the frame of the patent in suit or of respondents' truck.

Judge Shipman disposed of this patent by saying (p. 143):

> "This construction, although it contains the name semi-elliptic spring, has not the conjoint action of the

patented combination, nor does it perform the function of the Brill device."

All these considerations show why the Peckham patent was *rejected* by Judge Shipman after the fullest consideration, as not anticipating or imposing any limitation upon Claims 1 and 2; why it was *rejected* by the Patent Office in reference to these two claims: why it was *rejected* by the defendants' expert witness in the *Third Avenue* case, who *did not even refer to it in his examination-in-chief;* why the able and experienced counsel for the defendant in that case relied upon it but slightly in their printed argument; why Mr. Abbott, the respondents' expert witness in this case, barely refers to it in his affidavit; and why the counsel for the respondents in this case have paid slight attention to it in their arguments in the various stages of this case. The Court below, itself, for the first time in the history of the case, gave any real force to this patent. The real defence by counsel in this case has not rested upon this Peckham patent, but upon the contention that oscillation in the respondents' trucks is overcome by the *tension spring* which the respondents use in their trucks, and that they use elliptical springs, not because they are useful to overcome oscillation (for which purpose they say they are a "*positive detriment*" to their trucks), but because they serve as braces to prevent the horizontal movement of the car body on the truck.

Again, suppose even that the patentee, G. M. Brill, in conducting his experiments in 1889 (as all the street railway world were) towards a successful electric truck, had himself designed the truck of the Peckham patent, 419,876, and that it turned out a complete failure, was refused by the trade and was thrown aside (which was the fate of the Peckham device). Certainly such a failure would not invalidate a patent for a successful truck which he afterwards invented, which the trade immediately and *universally adopted*, and for which he applied for and received the protection of the patent laws.

Clearly, such a case would fall within the remark of Mr. Justice Brown in the Barbed Wire case: "In the law of patents, *it is the last step that wins.*"

When, in 1889, Mr. Peckham and Mr. Brill and the hundred other expert minds were struggling to devise a truck which would meet the vital requirements of the business, Mr. Peckham hit upon the device of the Peckham patent, 419,876, and obtained a patent for it. He does not appear to have sold a single truck of this construction. It was not only an entire failure, but it is shown to be *incapable* of practical use. He appears not even to have advertised it, because at that very time he was advertising another type of truck, which he said "successfully solved the problem of oscillation." On the other hand, Mr. Brill, in 1889 (as his affidavit shows), devised his truck and afterwards patented it, and it met with immediate and universal acceptance upon its introduction in January, 1891. Mr. Peckham and his companies then began to sell infringing trucks. When sued for infringement he assumes the position that his device of 1889, useless and never used, places such a limitation upon the *successful* invention of Mr. Brill that he is free to infringe upon the Brill patent in suit. Such a position does not commend itself.

It will be observed that the Peckham Company, respondent, does not justify its trucks under any of its patents. The reason is clear. Its own patents, as we shall show below, completely refute its contention of non-patentability and non-infringement of the patent in suit.

History of the Development of the Truck Art as Shown by a Consideration of the Various Letters Patent in Evidence and those set up in the Answer to the Bill of Complaint in this Case.

We shall now point out that the truck of the Peckham patent 419,876, which was clearly not a practical truck, and is shown to have been entirely rejected in the trade, was an

experiment along lines peculiar to that structure; that no other truck structure was ever developed along the same lines; that its lines are essentially different in construction from all the other trucks, and that the successful line of development which has been accepted by the trade leads, through many experiments and partial successes, directly to the truck of the patent in suit. The *only* non-pivotal street-railway motor-truck in use now and for years past is, and has long been, as much a *standard type* as is, and has been for thirty years or more, the well-known "Master Car Builders' Truck" universally used in steam railroad practice.

The subject will be considered by a reference to the various letters patent in evidence and those set up by the respondents in the answer to the bill of complaint (Record pp. 8, 10, 11). The latter may be considered here for that reason. Or, if not, then, if they furnish persuasive evidence as to the patentability of the subject-matter of the broad Claims 1 and 2 of the patent in suit, the petitioners will claim the right to show the matters now to be referred to at final hearing.

It will not be denied that there is *but one type of non-pivotal truck in general use on electric street railways to-day*, and that this type alone has been *exclusively* used for many years. The *truck frame* structure of this type (apart from the car-supporting spring system) is the truck structure disclosed in Brill patent 432,115 (application filed April 27, 1889, prior to the application for Peckham patent 419,876). Its structure is described in the patent in suit, and is as follows:

Pedestals (or yokes or saddles) C are supported on the axle boxes, and the ends of these pedestals are united by low-hung beams D thus forming a strong, substantial and *stationary* frame for the support of the car-spring system. The pedestals are made (component or [Fig. 9] integral) parts of that frame. The frame maintains the parallelism of the axles. In addition, the frame comprises spring-posts (F), which pass through the pedestals up to the car body; these posts serves to keep the car body on this stationary truck frame and to pre-

vent its horizontal displacement thereon. These posts thus also act as pedestals. These stationary side beams may be transversely connected together, thus uniting the side beams into a rigid, rectangular frame. This frame is a stationary or independent frame, for, though it may have cushions (c^2) between it and the axle boxes, it is not subject to the motion of the car body on the car springs to any *appreciable* extent.

It forms a stationary foundation for the car-spring system. This is obviously the truck construction of the patent in suit and of all the respondents' trucks.

Considered without regard to the greater or less extension of the stationary side beams (the extensions are made in order to provide a more extended spring support or "base" for an increased length of car body), the above-described truck frame structure is, and has for years been, the only truck frame structure in use. There may be differences in details of construction, but the fundamental principle has long been universally used in the trade.

It can further be stated that there is not now in use, and has not been for years, a non-pivotal street car truck in which the car-supporting spring system has not consisted of a *combination* of *spiral* and *elliptic* springs, supported on *stationary side beams* or frames of the kind just described, with the elliptic springs arranged or disposed in *line with the other car springs*, and extending *longitudinally* along the *extensions* of the side beams, the *end springs* being at the *four corners* of the truck.

It is a sufficient warrant for the accuracy of these statements to say that the Brill truck of the patent in suit, the respondents' three trucks, and the Bemis trucks in the Third Avenue case all fall within this universally accepted type of truck. The affidavits of Fagan, Littell, Akarman and J. A. and G. M. Brill as to the universal adoption of such a type of truck fully support the above statements, and this is not disputed by respondents, but is supported by their affidavits.

It may be further stated, without the possibility of denial, that all types of non-pivotal trucks *not* embodying these two features of stationary side beams and combined spiral and elliptic springs so disposed and supported, have been failures, and have either never gone into use, or, if used, have long since been totally rejected by the trade.

We shall now show:

(1.) That every patent set up in the Answer and all the *early Peckham* patents, *except 419,876*, uniformly developed their respective structures along the lines of the above described type of truck frame. By "early Peckham patents" we mean all of his patents (except 419,876) applied for up to the time when Peckham first disclosed, in a patent, the combined spiral and elliptic springs of the trucks here complained of.

(2.) That all of the patents referred to in (1) disclosed various car-supporting spring systems resting upon stationary side beams, some having *all spiral* springs and some having *all elliptics*, but none of them having *combined* spiral and elliptic springs, with the elliptic springs disposed longitudinally on the extensions of the stationary side beams.

(3.) That the patent in suit was *the first* to disclose combined spiral and elliptic springs, the latter longitudinally disposed on the extensions of the stationary side beams or frames.

(4.) That the Peckham patent, 419,876, was a development along a *peculiar and entirely distinct line*, that it has no *stationary* side beams, and, of course, no combination of spiral and longitudinally disposed elliptic springs, the latter mounted on extensions of such side beams, and that it differs in these respects from every other truck disclosed in the art as shown by the patents referred to in (1).

The patents referred to in (1) may be grouped as follows. We repeat that all of them disclose stationary side beams or frames. *The dates given are application dates.*

The following show truck structures having stationary side beams or frames of the kind above described, but having the

various kinds of car-supporting spring systems which will be mentioned in connection with each.

I. Patents showing all spirals, with spiral end springs at the four corners of truck:

a. Patents set up in the Answer:

J. A. Brill 373,640, February 23, 1887.
Manier 409,993, June 21, 1889.
J. A. Brill 418,441, April 27, 1889.
Hubbard 457,740, February 25, 1890.
Bird 436,031, May 16, 1890.
Bickford 450,608, November 25, 1890.
Robinson 451,952, December 27, 1890.
W. S. G. Baker 460,348, June 2, 1891.

b. Peckham patents:

Peckham 419,877, September 17, 1889.
(This truck is shown in Exhibit A., Record p. 40.)
Peckham 419,878, September 17, 1889.
Peckham 424,723, December 7, 1889.
Peckham 440,189, May 29, 1890.
Peckham 458,749, October 30, 1890.
Peckham 464,253, October 30, 1890.
Peckham 467,896, October 30, 1890.
Peckham 471,061, October 30, 1890.
Peckham 555,526, August 18, 1891.

II. Patents showing the *alternative* use of *either* all-spiral *or* all-elliptic springs on extensions of the side frames; or located *both* intermediate of, and on, extensions of the side frames.

John A. Brill, 373,640, June 23, 1887.
Manier, 409,993, June 21, 1889.

III. *Patents showing the use of all elliptics:*

Taylor, 437,167, June 25, 1890.

In all of the foregoing, the end car-supporting springs were disposed *longitudinally* in line with the other springs on the stationary side frames, and at the *four corners* of the truck.

This review of the patents in the art shows:

(1.) That while many inventors tried to develop a non-oscillating truck, they all failed, and that Brill alone succeeded in the development of a *type* of truck, which was thenceforth adopted, to the substantial exclusion of all other non-pivotal street car trucks.

(2.) That the Peckham Patent, 419,876, was entirely out of touch with the art as it developed, and taught nothing.

We submit that it cannot and should not be given any effect as limiting the scope of the Brill invention, which was a development of the art along totally distinct and *successful* lines.

It will be interesting to note that it was not till March 12, 1894, years after the introduction and general adoption of the truck of the patent in suit, that Peckham fell into line with the settled development of the art and filed *his first application* disclosing a combination of *spiral* and longitudinally extending *elliptic* springs, the latter supported on the extensions of the stationary side beams. His development along this line appears in the following patents. (The dates are application dates):

Peckham 563,685, March 12, 1894.

(This shows the precise structure of two of respondents' trucks complained of—"Standard" and "Extra Long.")

Peckham 555,530, June 11, 1895.

(This shows the precise structure of respondents' third truck complained of—the "Excelsior.")

Peckham 560,816, February 29, 1896.

Peckham 599,474, April 6, 1897.

If his patent 419,876 taught anything, or even suggested anything to this art (or any form, embodiment or manner of use of the combination of elements recited in Brill Claims in suit 1 and 2), how can he explain the fact that it took Mr. Peck-

ham, a truck builder, years to reach the form of truck complained of, and that in the interval between September 2, 1889, and March 12, 1894, he (with all the others in the art, except G. M. Brill) went off and worked on lines subsequently abondoned by everyone and never afterwards reverted to?

It may be interesting to note how close even John A. Brill came to the invention of the patent in suit without grasping it. His patent 373,640 (application filed February 23, 1887), discloses a form of *stationary* frame having *extensions* beyond the axle boxes, with springs supported *on* the extensions at the *corners* of the frame for the prevention of oscillation. In that patent he discloses the *alternative* use of *either* spiral *or* elliptic springs (just as in the Manier patent 409,993). His patent 432,115 (application filed April 27, 1889, just before G. M. Brill disclosed to him [May, 1889], in definite form his invention, the truck of the patent in suit), shows the stationary side beams above referred to. But neither of these trucks met the needs of the trade or sufficiently prevented oscillation. He just missed the successful truck which did fully solve the problem and did meet all the requirements of the trade.

But further, even when in May, 1889, the patentee, G. M. Brill, disclosed his invention to J. A. Brill, the latter was even then unable to grasp the fact that the patentee had reached the "last step" in the broad development of the art and produced a structure which was to supplant all other structures in the trade. Thus he states (Record p. 34):

> "Although I fully understood the said invention as explained and illustrated [May, 1889] to me by G. M. Brill, *I did not appreciate its great value* nor recognize that it would be the best and most practicable and the *only possible solution of the problem* of the prevention of oscillation in the operation of four-wheel electric cars."

These considerations must have been in the mind of Judge Shipman when he said (Record p. 144):

> "The only remaining question is that of *patentable novelty*. It has already appeared that the gist of the invention is described in Claims 1 and 2. The necessity for a remedy against the pounding of the car, the importance of the result, the adoption of the invention by experienced railway superintendents, *the number of previous attempts at a remedy and the barrenness of their results go far to show that the work of an inventive mind was required and was active in the invention.* The testimony of the *defendants' expert itself*, as he goes through the history of the art and thereby points out what the patentee's combination did, as compared with previous efforts to do something, *shows that the patented improvement was patentable.*"

We submit that this historical view of the art is most persuasive as establishing the patentable novelty of the patent in suit. Courts have always found great difficulty in applying the *conjectural* method to the ascertainment of what is patentable invention. Probably this method is one which can never be satisfactorily applied, least of all in this case. We believe that the *historical* method will be found to furnish a better and surer means of deciding this question. Where, historically considered, an art has developed along divergent lines, one line ending in success and the other in failure, it is fair to say that the line which ended in failure may ordinarily be disregarded and consideration given only to those steps which led along the lines of successful development. The historical method is particularly applicable in cases like the present, where the art was an important one, affecting large interests, and one on which many active and trained minds were hard at work to solve the problems. To an unusual degree one invention was successful and was *universally* adopted, while all the other attempted solutions of the problem were failures and were all rejected.

And, after all, the historical method of investigation is merely another name for the well-established rule that evidence that a patented device has gone into general use is persuasive evidence of the exercise of patentable invention and in cases of doubt is "sufficient to turn the scale" (*Smith* vs. *Goodyear Dental Vul. Co.*, 93 U. S. 495).

A truck patent is a difficult one to deal with on theory alone. Trucks are used under very exacting conditions. They must sustain a weight of many tons (perhaps 10 to 15); they must be run at a rate of 20 or 30 miles an hour; they must carry a heavy motor, and, with all this, they must be so constructed that they furnish an easy-riding car for passengers. The problem of patentable invention, in relation to such a structure as this, is not an easy one for a court to solve. It may perhaps be well left to those skilled in the art and to the practical experience of trained men, acting in the line of their business and enlightened self-interest. What the art, in the opinion of such men, required; what they devised to meet its requirements, patented and introduced and tried practically and then rejected; and, finally, what they accepted and universally adopted as fully meeting the requirements of the art—facts of this kind ordinarily afford a safe guide in solving the difficult problem of patentable invention.

In this connection we cite a few of the cases on "*Taking the Market*" as evidence of patentable novelty.

AUTHORITIES ON TAKING THE MARKET AS PERSUASIVE ON THE QUESTION OF PATENTABLE NOVELTY.

It would be difficult to imagine a case in which evidence that a patented device has "taken the market" would be *more* persuasive than the present case. There are but few truck builders in the United States. They build trucks only on *orders* from the railroad companies. Their customers

are comparatively few. Each customer, about to equip a street railway, necessarily makes a careful and thorough investigation of the merits of the different trucks in the market. He is an intelligent and usually a trained man, spending large sums and taking action the effect of which will last for years, for profit or loss, on his road. To take that market is an unusual proof of merit.

In *Smith* vs. *Goodyear Dental Vul. Co.*, 93 U. S. 495, it was said:

> "Undoubtedly, the results or consequences of a process or manufacture may in some cases be regarded as of importance when the inquiry is, whether the process or manufacture exhibits invention, thought and ingenuity. Webster, on the subject-matter of patents, page 30, says: 'The utility of the change, *as ascertained by its consequences, is the real practical test of the sufficiency of an invention.* . . . Where the utility is proved to exist in any degree, a sufficiency of invention to support the patent must be presumed.' We do not say the single fact that a device has gone into general use, and has displaced other devices which had previously been employed for analagous uses, establishes in all cases that the latter device involves a patentable invention. It may, however, always be considered; and, when the other facts in the case leave the question in doubt, *it is sufficient to turn the scale.*"

Keystone Manfg. Co. vs. *Adams*, 151 U. S. 139.

> "While it is true that the mere fact that a device has gone into general use, and has displaced other devices which had previously been employed for analogous uses, does not establish, in all cases, that the later device involves invention within the meaning of the patent laws,

yet such fact is always of importance, and is entitled to weight, when the question is whether the machine exhibits patentable invention (*Smith* vs. *Goodyear*, 93 U. S. 486, 495)."

In view of the extensive use of the invention covered by the patent in suit, in *Topliff* vs. *Topliff*, 145 U. S. 156, Mr. Justice Brown, said:

"While the question of patentable novelty in this device is by no means free from doubt, we are inclined, in view of the *extensive use* to which these springs have been put by *manufacturers of wagons*, to resolve that doubt in favor of the patentees, and *sustain the patent*."

It was in evidence in *The Barbed Wire Patent*, 143 U. S. 275, that the patented fence wire did not radically differ from other fence wires that were old; but it was apparent, also, that the improvement covered by the patent in suit made the barbed wire fence a practical and commercial success. It was also shown that the sales were very large, and that the device immediately met with favor. Mr. Justice Brown said:

"Under such circumstances courts have not been reluctant to sustain a patent to the man who has taken the final step which has turned a failure into a success."

ERRONEOUS CONCLUSIONS IN THE OPINION OF THE COURT BELOW.

1. The Court below erred in holding that Claims 1 and 2, broadly construed, do not involve patentable invention.

The Court below, after considering the Manier and Peckham (419,876) patents, and only those, says (Rec. p. 152):

"It thus appears that it was old in the prior art to employ for the purpose of obviating the oscillation of the

car body all the parts enumerated in the first and second claims except the two kinds of springs in the same car truck, and that the only novelty in the inventions of those claims, details of construction being disregarded, consists in the *substitution of both spiral and elliptical* in the place of either spiral or elliptical springs. Indeed, the inventions are wanting even in this *measure of novelty*, and reside merely in the substitution of elliptical for the semi-elliptical end springs. The claims are *not limited to longitudinal end springs*, as the specification points out they are only preferably employed; and the circumstance that the semi-elliptic springs of the Peckham patent extend transversely instead of longitudinally is therefore immaterial.

"It is manifest that the inventions secured by the claims are of a very narrow character, and that they cannot receive the broad construction which their language would authorize without affirming their invalidity for want of patentable novelty. It would be merely an *aggregation* of old parts to supplement the spiral springs by the elliptic springs, or the elliptic spring by the spiral springs, and would not involve invention, unless some new mode of operation due to the conjoint action of the two kinds of springs should result from doing so. It is asserted that a new result is obtained by the conjoint use of the two kinds of springs in that it breaks the rhythm of the impulses imparted by each kind and thereby decreases the amplitude of the oscillation of the car. But when it is shown that the *substitution* merely consisted in employing elliptic springs in conjunction with the spiral springs, instead of semi-elliptic springs in conjunction with such springs, and that this substitution produces merely an improved and not a new result, the structural changes in form and arrangement which may be discovered in the specification afford the only features of novelty which can support the claims."

We will consider in detail the various positions here taken by the learned Court, though repeating in part matters already considered above :

A. The Court below said :

" . . . the inventions . . . reside merely in the substitution of elliptical for the semi-elliptical end springs."

We submit that this is erroneous.

Merely to displace the semi-elliptic spring of the Peckham patent and substitute a full elliptic spring—placing it in the same place, may or may not have produced an *improvement* in the *result* of the operation of this *new* combination, but such result, although new in that truck, would not be a *new result*, since the result would only be due to the difference in operation of the elliptic over the semi-elliptic, and this could have reasonably been anticipated.

This would be the *net result* of the *mere* substitution of ellipties for the semi-ellipties in the Peckham patent.

This in no way even remotely approximates the invention of Claims 1 and 2, either as to the combination of elements therein recited, or their respective mode of operation, and the the results produced thereby.

If this language of the opinion below means that Brill merely "substituted" a full elliptical spring in the Peckham patent, obviously the full elliptical spring thus "substituted" must be put in the place of the semi-elliptic, *i. e.*, transversely across the end of the truck supporting the car body along the centre line of the truck. But this would not produce the Brill non-oscillating truck. It would be no better than the Peckham truck with its semi-elliptic spring. Like that truck, it would rather stimulate and increase oscillation than lessen it. The vertical lines of disturbance in running a truck are at the sides—over the rails—and arise from "low" rail joints, obstacles on the rails, etc. A support on the centre line of the truck (especially with a load of passengers on the overhanging platforms), would promote a rolling or rocking motion. Only when the

springs of the Brill combination are disposed in line with the expected plane of disturbance and at the corners of the truck, can oscillation be properly controlled or kept within proper limits. And, besides, it would not have the very important feature of the increase of the spring base (to the extent of nearly half the length of the full elliptic spring) by the use of a full elliptic spring *longitudinally* disposed. And this substituted structure would also lack the stationary and movable frames of the claims in suit. All these considerations have been fully pointed out elsewhere in this brief.

The Court below, in order to reach even (what we consider) the erroneous position here referred to, was obliged to "disregard details of construction." but these are necessary elements of the invention. We do not claim a mere combination of spirals and elliptics, but we claim such a combination in connection with the other structural details of the claims, *i. e.*, the stationary and movable frames and the springs disposed thereon as recited in the claims.

B. Again, consider the next position taken by the Court below in the passage first above quoted:

> "The claims are *not limited to longitudinal end springs*, as the specification points out they are only preferably employed; and the circumstance that the semi-elliptic springs of the Peckham patent extend transversely instead of longitudinally is therefore immaterial."

This also, we submit, embodies an erroneous view of the structure of the patent in suit as we show elsewhere. The Brill end springs are supported on *extensions* of the side beams and *between* them and the movable frames. That is, *they support the car at its four corners.* Whereas, in the truck of the Peckham patent, the end springs support the car on the centre line, and leave its corners unsupported and liable to all kinds of plunging or swaying motions. True that in the Brill truck, the end springs are stated by the specification to be only *preferably* placed in a *longitudinal* direction, but

whether placed longitudinally or transversely, they must, clearly be placed so as to *support the car at its corners*, which the Peckham semi-elliptic springs do not.

C. The next position taken by the Court below is:

"It would be merely an *aggregation* of old parts to supplement the spiral springs by the elliptic springs, or the elliptic spring by the spiral springs, and would not involve invention unless some new mode of operation due to the conjoint action of the two kinds of springs should result from doing so. It is asserted that a new result is obtained by the conjoint use of the two kinds of springs in that it breaks the rhythm of the impulses imparted by each kind and thereby decreases the amplitude of the oscillation of the car. But when it is shown that the *substitution* merely consisted in employing elliptic springs in conjunction with the spiral springs, instead of semi-elliptic springs in conjunction with such springs, and that this substitution produces merely an improved and not a new result, the structural changes in form and arrangement which may be discovered in the specification afford the only features of novelty which can support the claims."

We reply to this:

1. The *combination of elements* recited in the claims is admittedly new in the art.

2. The combination of Claims 1 and 2 cannot "be merely an *aggregation* of old parts," since the Court below admits that it involves an *improved result;* whereas, an aggregation, in the sense of the patent law, means the mere bringing together of old elements in such a way that they do not coact to alter or improve the operation of the new arrangement. That there is a mutual contribution of each element of Claims 1 and 2 to produce a new mode of operation, a new result, and an improved truck has been sufficiently established.

3. It is not correct to say that the patent merely *substituted* a full elliptic spring for half elliptics. On the contrary, it is fully shown that neither semi-elliptics nor full elliptics *combined with spiral springs* had ever before been used together in combination with the stationary and movable frames of Claims 1 and 2, and disposed as therein specified.

4. The result was a new type of truck; a *more efficient structure* for the lessening of oscillation, which solved a serious problem in the art and took the market, almost to the exclusion of all earlier devices. We submit that this constituted a *new result*, the result of the new combination of elements and sufficient to sustain a patent therefor.

D. The quotation from the expert in the Opinion (Record p. 152) should not have the significance apparently attached to it by the Court below.

This, be it observed, is *not* a quotation from anything *said in this present case* by the petitioners' expert witness. The reference which he makes *in this case* to Peckham 419,876 is at page 77 of this Record, in which he refers to this patent only by quoting the words with which Judge Shipman, in the *Third Avenue case*, had disposed of it as of no importance. When the expert, in testifying in *that* case, took up the consideration of this Peckham patent, he had in mind the fact that the defendants' expert in *that* case had taken but slight note of that patent, *not even mentioning it in his examination-in-chief.* He passed it by, therefore, with the remark quoted by the Court below. In this we believe his position was wrong. The Peckham 419,876 truck, would, as we have shown elsewhere, and as an inspection shows, *promote*, rather than measurably lessen, oscillation.

But admit for the moment that this Peckham device would "measurably" affect oscillation, so, perhaps, did the earlier trucks with all spiral springs on the extended spring bases. Even they were "measurably" better in restraining oscillation than *no end springs.* But the latter were found not

to lessen it *sufficiently for practical* purposes, and they were entirely abandoned in the trade in favor of the truck of the patent in suit; and the Peckham 419,876 truck does not appear ever to have been put to the test of actual use (and has been shown elsewhere in this Brief to have been quite impractical). The oscillation problem was too serious for a "*measurable*" remedy. It required an *efficient* remedy. The continued *exclusive* use of this type of truck in the trade up to the present time—twelve years since its introduction, in which time the respondents alone have sold 10,000 of them—shows how completely the patentee, by the exercise of the inventive faculty, met the requirements of the case and provided a standard truck apparently destined to last as long as non-pivotal trucks are used in electric street railway practice.

E. It is, perhaps, somewhat difficult to understand in what sense the Court below considers that this really valuable invention embodies an "improved" result, but does not embody a "new result." If all other trucks failed and this alone succeeded, we submit that it is just such an advance in the art that the patent laws are made to protect. These considerations were persuasive to Judge Shipman's mind in the Third Avenue case when he summed up his opinion in these words (Record p. 144):

> "The only remaining question is that of *patentable novelty*. It has already appeared that the gist of the invention is described in Claims 1 and 2. The necessity for a remedy against the pounding of the car, the importance of the result, the adoption of the invention by experienced railway superintendents, the number of previous attempts at a remedy and the barrenness of their results *go far to show that the work of an inventive mind* was required and was active in the invention. The testimony of the defendant's expert itself, as he goes

through the history of the art and thereby points out what the patentee's combination did, as compared with previous efforts to do something, *shows that the patented improvement was patentable.* The result of the minor invention of Claims 9, 10, 11 and 14 was important, though upon first inspection, its marked importance does not appear, but it perfected the *general invention of the first two claims.*"

2. The Court below erred in holding that the language of the specification confines Claims 1 and 2 to special features of construction in which the elliptical springs do not come into play until the spirals have been depressed abnormally.

The learned Court below having thus, we submit, erroneously settled the position of this invention in the art, proceeds (p. 153) to consider the language of the specification, and finds that the invention is thereby confined to special features of construction by which "the elliptic springs will not be brought into play until the spiral springs have been compressed by the weight of the car body and the added load, 'until the weight of the load on the axle box springs begins to depress said springs abnormally,'" and limits the broad Claims 1 and 2 by reading this characteristic into them.

We submit that here also the Court below was in error.

First. It is a *specific embodiment* of the Brill invention to graduate and adjust the spring system to meet varying loads and thus furnish an easy riding truck. This embodiment is such that there is an initial compression of the spirals slightly in advance of the elliptics.

Second. This is the precise arrangement of the respondents' structures, as we have just shown, except that they *claim* that their initial compression is of the elliptical springs.

We have shown that in all truck constructions (of the present kind) it is proper and usual to adjust or graduate the springs so as to carry with equal ease either a light or a heavy load, and that the respondents' springs are thus adjusted. We will now return to that part of the opinion of the Court below which holds that the *specification* expressly limits Claims 1 and 2 to an arrangement of springs in which the elliptical springs do not come into play until the weight on the spiral springs begins to compress the spirals abnormally, thereby imposing a limitation upon these broad claims and finding that they are not broad enough to cover the respondents' structures.

1. It cannot be contended that the combination of spiral and elliptic springs, the latter supported on the extensions of the stationary frames and disposed between these frames and the upper frames, was not new in the art. It certainly is clear that no such structure appeared in the art until Mr. Brill introduced it.

Indeed the Court below said that

> "the only novelty in the inventions of those claims, details of construction being disregarded, consists in the *substitution of both spiral and elliptical* in the place of either spiral or elliptical springs."

2. The patent contains a broad group of Claims (1 and 2) and a narrower or limited group (9, 10, 11 and 14). The presence of a broad group is certainly a most persuasive *expression* of an intent, to be gathered from the whole instrument, to cover the broad invention.

Where there is any doubt as to whether a specification discloses a broad invention or only a specific detail or form of that invention, the fact that the broad invention is claimed in one group of claims and the specific form in another group, may certainly be considered, and to be entitled to weight in endeavoring to ascertain the intent of the whole instrument.

And this argument becomes even stronger when it is observed that not even the group of limited Claims, 9, 10, 11 and 14, indicate any *degree* of subsequency of compression of the end springs, and that Claims 9, 10 and 11 also cover the arrangement of respondents' springs. Thus Claim 9, for instance, reads: "Some of said series [of springs] being adapted to be compressed by the downward movement of said frame subsequent to the compression of the other of the series," and Claims 10 and 11 contain a like feature.

The opinion below (p. 153) recognized the force of this argument, but met it by stating that the limited group of claims "differ in other respects [than in respect of subsequent compression] from the two claims in the controversy." But this is erroneous. Claims 9 and 10 differ in no other respect.

In view of these two groups of claims, it would seem to be a strained construction of this instrument and one not easily to be adopted, which limits the *broad claims* to a *degree* of subsequency of compression which is *not found* even in the group of expressly limited claims.

3. The spiral springs are, according to the specification, to be made weaker than spirals had been made in the old art (Specif. p. 1, l. 100), so as *sooner* to bring the weight down to the elliptics under the *heavier load of a long car* at the time when the car is placed thereon, so that at that time both sets of springs may compress simultaneously. This is in accordance, as above shown, with the usual practice, and with the respondents' practice.

4. *The drawing of the patent* in suit does not support the Court in its extreme position. We have elsewhere shown (*supra*, p. 49) that *on the face of the drawing* itself, and by testimony thereupon in the Third Avenue case, the car *body alone* without *added passenger weight*, is sufficient to cause *all* the springs to take a bearing, and that there is ample latitude of settlement in the spiral springs (of the truck exactly

as illustrated in the patent) to provide for all further requirements of use.

Between this condition of use and the excessive weight theory of the Court below is a wide margin within which both the truck of the patent in suit and those of respondents clearly fall.

We submit that these considerations are exceedingly persuasive of the view that the broad claims should stand as they read and as Judge Shipman interpreted them.

What is there that has been urged on behalf of the view of the Court below? Merely the use in the specifications of the words "abnormal" and "abnormally" in relation to compression. As we state elsewhere, these words have no *definite* significance. They indicate no *exact degree* of compression. They ought not to control in any way the phrase of the specifications (p. 2, line 12) "until after the axle box springs have **begun** to compress," which expresses a clear, definite and accurate idea. "Abnormal" is, we submit, used carelessly and unnecessarily and should be given but little, if any, weight. That the writer's comprehension of the word was vague and uncertain is shown by the two following passages from the specification, one of which uses the word and one of which does not, yet both of which describe precisely the same operation of the truck structure:

". . . elliptical springs . . . which will not be brought into action until the weight of the load on the axle box springs **begins** *to depress* said springs abnormally."	". . . the elliptical springs will not come into play until the axle box springs have **begun** *to compress.*"

If "abnormally" in the first of these passages is of any real significance, why was it omitted in the second passage when *both passages describe precisely the same operation of the truck?*

It may be that in the mind of the writer of the specification "abnormal" may have meant any deviation of the upper frame from a horizontal position during the *oscillation* of the car. It is certainly so used in the following passage in the specification:

> "The devices which secure the elliptical springs between the side beams and the upper chord are devised to permit one end of the upper chord to approach the side beams and the other end to be elevated, as will occur in the act of oscillation, one set of elliptical springs being compressed while the other remains in its *normal* condition."

Another passage at p. 3, l. 64, of the specification (Record p. 19) may be referred to briefly although it was not adverted to by the Court below and has now been referred to by opposing counsel. The passage is as follows:

> "It will be seen that this method of bracing gives a greater carrying capacity to the ends of the side beams, permitting them to carry great loads without fracturing the saddles, upon which in this case a considerable portion of the strain would come, when by reason of excessive loading of the car body, and consequent depression of the springs, a portion of this action would be taken on the springs supported on the ends of the side beams. When the excessive loading is not present, the springs on the ends of the side beams act as buffers, the ordinary action of the car body on the truck being taken up by the spiral springs."

We will consider this passage:

1. It occurs in a part of the specification relating entirely to certain braces (marked 50 in Fig. 1 of the patent) intended to *strengthen* the extended ends of the side beams so as to enable them to stand *excessive* strains when there is an "excessive loading of the car body" on the ends of the side beams.

That is, when the strain is excessive, these braces are there to meet it. But the passage quoted does not signify, and is not intended to signify, in any way, the exact point at which, as between a truck without a car body on it and an excessively loaded car, the compression of the elliptical springs has *begun*.

2. The last sentence of the passage just quoted does not import any degree of subsequency of compression, certainly not that which the respondents' contend for and which the Court below found. The spiral springs are intended, at all times, whether the ellipticals are in action or not, and with or without the so-called abnormal compression, to act as the main car springs.

And the same thought is found in another passage of the specification: "The spiral springs . . . normally take the weight of the car."

Neither passage is inconsistent with the idea that even under the action contemplated in the passage quoted, the elliptics are under compression. The theory of the specific embodiment of the invention is that the spirals are the master car springs and the ellipticals are reinforcing springs—to resist forcible downward movement of the car body at all times. And when a car is unduly loaded at one end and the upper frame is inclined to the stationary frame, as is a common case, obviously all the springs are under compression simultaneously and are in part arranged to meet that condition of load. And this is the precise practice shown in the Peckham patent in evidence, 563,685, which states, at p. 3, l. 54:

> "There are four of these elliptical springs in the truck structure, two at each end of the truck, and it is upon these four elliptical springs that dependence is placed to sustain the car when not loaded, and as the weight of the car is increased, the spiral springs come into play to reinforce the elliptical springs."

Even when the springs are *all* bearing, say when supporting an "abnormal" load, then the spiral springs, in the

specific embodiment, "take up" the "ordinary action of the car body."

These clauses are not inconsistent with the conjoint action (in the patent) of *all* the springs.

In its opinion (p. 154), the Court below says:

> "They [the 28 claims] were obviously framed *to cover any possible theory of the invention* which is *hinted at* in the specification, and which the exigencies of an infringement action may require."

And yet it adopts a construction of Claims 1 and 2 which reduces the entire scope of the patent and of all its claims to a single phase of the invention.

We submit that the learned Court overlooked the fundamental rule for the construction of letters patent announced in *Keystone Mfg. Co.* vs. *Adams*, 151 U. S. 139, where it was said:

> "Where the patented invention consists of an improvement of machines previously existing, it is not always easy to point out what it is that distinguishes a new and successful machine from an old and ineffectual one. But when, in a class of machines so widely used as those in question, it is made to appear that *at last, after repeated and futile attempts*, a machine has been contrived which *accomplishes the result desired*, and when the Patent Office has granted a patent to the successful inventor *the courts should not be ready to adopt a narrow or astute construction, fatal to the grant.*"

The case at bar strongly resembles *Topliff* vs. *Topliff*, 145 U. S. 156, where Mr. Justice Brown, in delivering the opinion of the Court, said:

> "While it is possible that the Stringfellow and Surles patent might, *by a slight modification*, be made to perform the function of equaliziug the springs which it was

the object of the Augur patent to secure, that was evidently not in the mind of the patentees, and the patent is inoperative for that purpose. Their device evidently *approached very near* the idea of an equalizer; but this idea did not apparently dawn upon them, nor was there anything in their patent which *would have suggested it to a mechanic* of ordinary intelligence, unless he were examining it for that purpose. It is not sufficient to constitute an anticipation that the device relied upon *might, by modification*, be made to accomplish the function performed by the patent in question, if it were not designed by its maker, nor adapted, nor actually used, for the performance of such functions.

"While the question of patentable novelty in this device is by no means free from doubt, we are inclined, in view of the extensive use to which these springs have been put by manufacturers of wagons, to resolve that doubt in favor of the patentees, and sustain the patent."

See also the following decisions rendered by judges of wide experience in patent cases:

"There is no hard and fast rule by which to adjudge invention. Each case must stand on its own facts; but where it appears that the *patented structure is at the head of the evolution in its particular art;* that it is a marked improvement on what preceded it; that it *does better work* and *accomplishes more satisfactory results*, the Court should surely be predisposed in its favor."

Bray vs. *United States Net and Twine Co.*, 70 Fed. Rep. 1006. C. C., S. D. of N. Y., per Coxe, D. J.

"No one can read this record without being impressed by the fact that Van Depoele was more than a skilled mechanic in the art of electrical railway propulsion. *The Patent Office has raised a presumption in his favor as an inventor by the grant of numerous patents to him.* Some thirty have been introduced by defendant, several

of which cover highly meritorious inventions, which have largely contributed to the successful practical operation of the trolley roads throughout this country."

Thomson-Houston Electric Co. vs. *Winchester Ave. Ry. Co.*, 71 Fed. Rep. 192. C. C., D. of Conn., per Townsend, D. J.

The Court below appears to have taken a different view of *patentable novelty* in *George Frost Co.* vs. *Cohn*, 119 Fed. Rep. 505 (December, 1902), which involved a question of patentable novelty of a *hose supporter* (a *garter*).

Here also Wallace, C. J., wrote the opinion of the Court sustaining the patent. He said:

"It is not necessary to the patentable novelty of a device, which consists in employing a new material for an old one in constructing one of its parts, that the substitution should involve the discovery or utilization of an unknown or unexpected property of the material. This is one of the tests of patentable novelty, but it is not the only one. Whether the feature of novelty is the employment of a new material or a change of adaptation in other respects, the inquiry always is whether what was done involved the exercise of inventive faculty as distinguished from the ordinary skill of the calling. When the substitution has accomplished a *result* which those skilled in the art had long and vainly sought to effect, the evidence that it involved something beyond the skill of the calling is so persuasive that it generally resolves the inquiry in favor of patentable novelty. Applying that rule to the present case, we conclude that the patent in suit, as regards the claim in controversy, is not invalid for want of patentable novelty."

It will be convenient at this place to call the attention of the Court to the following authorities on patentable invention:

AUTHORITIES ON PATENTABLE INVENTION.

In *Consolidated Safety Valve Company* vs. *Crosby Steam Gauge and Valve Company*, 113 U. S. 157, which was on a patent in improvement in steam safety valves, in rendering *the opinion of the Court*, sustaining the patents, Blatchford, J., said :

> "*Taught by Richardson*, and by the use of his apparatus, it *is not difficult for skilled mechanics* to take the prior structures and so arrange and use them as to produce more or less of the beneficial results first made known by Richardson ; but, prior to 1866, *though these old patents and their descriptions were accessible*, no valve was made producing any such results."

In *Potts* vs. *Creager*, 155 U. S. 597, Mr. Justice Brown said in rendering the opinion of the Court :

> "The apparent simplicity of a new device often leads an *inexperienced person* to think that it would have occurred to anyone familiar with the subject ; but the decisive answer is that *with dozens and perhaps hundreds of others laboring in the same field, it had never occurred to anyone before.* The practiced eye of an ordinary mechanic may be safely trusted to see what ought to be apparent to every one."

In *Webster Loom Co.* vs. *Higgins*, 105 U. S. 580, 591, it was said by Mr. Justice Bradley : "But it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not, for years, occur in this light to even the most skillful persons. *It may have been under their very eyes*, they may almost be said to have stumbled over it ; but they certainly failed to see it, to estimate its value and to bring it into notice. . . . *Now that it has succeeded*, it may seem very plain to anyone that he could have done it

as well. This is often the case with inventions of the greatest merit. It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a new and *beneficial* result, never attained before, it is evidence of invention."

The following are well-considered cases in the Circuit Court of Appeals:

> "The argument that these differences could be overcome by a mechanic of ordinary skill, without calling for any exercise of the inventive faculty, *is the one always resorted to in cases like the present.* The task of distinguishing between invention and the power of adaptation possessed by a skillful mechanic is not always an easy one, nor have the courts apparently succeeded in formulating a proposition to cover all cases. While the statutes require that a patent, to be valid, must disclose invention and novelty, yet the degree or amount of invention required is not prescribed, and from the nature of the case, cannot be."
>
> *Hilborn* vs. *Hale, etc., Manufg. Co.*, 69 Fed. Rep. 958, C. C. of A., Third Circuit. Per Shiras, Circuit Justice.

National Hollow Brake Beam Co. vs. *Interchangeable Brake Beam Co.*, 106 Fed. Rep. 693 (C. C. of A., Eighth Circuit), was on a patent on a brake beam. The Court, after referring to the standard requirements of the Master Car-Builders' Association, calling for a brake beam on freight cars, having a capacity to withstand a load of 7500 pounds applied at the centre, and on passenger cars of 15,000 pounds, said (Sanborn, C. J.):

> "The problem was grave and difficult, and to him who successfully solved it honor and reward were justly due. Many men interested in railway equipment worked and

searched for the solution, and among them the patentee, Phillip Hien. He attempted to supply the acknowledged want, and to this end he devised, described and claimed a trussed hollow metallic brake beam, which completely filled the requirements of the Master Car-Builders' Association, and which went into such immediate and general use upon the railroads of the land that in 1892 85 per cent. of these railroads, controlling 80 per cent. of the cars using iron brakes, had adopted those made under these patents to Hien, and in 1898 more than 1,000,000 brake beams constructed under these patents had been manufactured and sold. These facts establish neither the novelty nor the patentability of his device, but they certainly challenge admiration, and demand that the presumption of validity which supports his patents shall not be stricken down without careful consideration and cogent and convincing proof. The keen, shrewd mercantile spirit of this age is seldom deceived with the purchase and continued use of worthless improvements in mechanical devices, and, when all is said, success is by no means the poorest criterion by which to judge of the acts and words of men."

It may perhaps be said that the learned Court below too easily worked along the line of thought that the "substitution" was "obvious." Of course, the elements which the constructor of a truck deals with are few. They are springs, beams, pedestals, etc., from which must be made up the means of connecting the axles of a car with the car body—that is, the means for sustaining the car body on the axles. New trucks can be made only by combinations of these various elements. And the art is a most difficult one. It deals with such vast elements of weight and speed. It has for long years occupied the attention and thought of many able inventors, and thousands of truck patents have been granted. It required, it is said, forty years to develop a standard locomotive truck, and

it took about as long for the development and final perfecting of the standard steam-car truck universally accepted in the trade and known as the "Master Car-Builders'" truck. And even with all those years of development in the locomotive and steam-car truck arts, neither of those arts taught anything to the art of electric railway non-pivotal trucks driven by electric motors. The conditions necessary in that art were practically absent in the former art.

If every combination constituting an advance in the truck art is held to be a mere "obvious substitution" because the elements of the combination are old, what shall be said of the thousands of patents which have been granted in the truck art, many of which have undoubtedly been valuable and many of which have been sustained by the courts? A more accurate view is, we submit, to consider that a truck combination which is novel and which constitutes a distinct advance in the art, and particularly which has met with general or universal adoption, is, broadly speaking, entitled to the protection of the patent laws, notwithstanding the elements of the combination are old, as they necessarily must be. To hold otherwise would be almost equivalent to saying that in the future no valid patents can be granted on car trucks.

As to respondents' theory that no infringement is shown.

We state again that at no time have respondents attempted to deny that their structures do not infringe Claims 1 and 2 either

1. As they read, or

2. As interpreted by Judge Shipman in the Third Avenue case.

Before taking up the respondents' theory that no infringement has been made to appear we will show the

TIME AND MANNER OF INTRODUCTION OF THE BRILL TRUCK.

In January, 1891, the earliest trucks made in accordance with the patent in suit were put in use on a street railway in Cleveland, and until recently, at least, they were still in use. There were ten of them.

John A. Brill, p. 35 of Record.
G. M. Brill, pp. 47, 48 of Record.

In October, 1891, there was an annual convention of the Street Railway Association, at Pittsburg, at which "the J. G. Brill Company exhibited a truck of this style and at the same time had some of them in operation on one of the street railways in Pittsburg, which were exhibited to the railway men attending the said Convention."

John A. Brill, p. 36 of Record.

"This was followed by a large number of sales of the trucks to various street railway companies in various parts of the country. The J. G. Brill Company manufactured it to the practical exclusion of its former types of trucks for four-wheel cars. Since then, it has been copied by other truck manufacturers, and street railway companies have recognized it as a necessity of the business and have almost universally adopted it. The type of truck of the patent in suit has, since then, supplanted all other four-wheel truck structures in the markets of the United States."

John A. Brill, p. 36 of Record.

"The type of truck which I invented, as above stated, . . . was made known to the trade in 1891 and thereafter and entirely took the market throughout the United States. Nearly all of the truck dealers began to build trucks constructed in accordance with the patent in suit, and the railway companies began to order them almost exclusively. Practically, and except for a few limited

purposes where short car bodies were required, the old types of truck were no longer manufactured or sold, and in the course of a few years after my said invention, nearly 90 per cent. of all the four-wheel trucks in use in the United States were constructed in accordance with this invention."

G. M. Brill, p. 48 of Record.

See also James Fagan, p. 50 of Record.

"Trucks constructed with side beams and combined elliptic and spiral springs, with an extension frame, have long since gone into general and almost exclusive use on street railways throughout the United States. They have almost entirely displaced the trucks . . . which had all spiral springs. So far as the use of trucks under long car bodies is concerned, I believe that this type has entirely displaced the earlier types with all spiral springs."

H. M. Littell, p. 52 of Record.

"This type of truck has gone into universal use under four wheel cars, and has substantially, if not completely, displaced all other constructions of single trucks."

John N. Akarman, p. 55 of Record.

Edgar Peckham, p. 89 of Record, attempts to controvert John A. Brill's affidavit as to the universal adoption of the truck of the patent in suit. What he means is that, *according to his theory of the scope of the patent*, only the few trucks he mentions have been sold. He does not attempt to deny the statements of G. M. Brill, Fagan, Littell and Akarman. Of course the petitioners' allegation of the universal adoption of their truck is intended to include sales and use of Peckham trucks, and all other trucks of the patented type, containing the combination of the patent in suit.

What Peckham and His Successive Companies were Doing at this Time.

In September, 1889, he applied for his patent 419,876. It certainly has been sufficiently made to appear that *this was not a practical device* and that *they never built trucks* under it.

In *October*, 1889, he advertised "*Peckham's Non-oscillating Electric Motor Truck*," a drawing of which is shown at Exhibit A, p. 40 of Record. It was an *all-spiral* truck, *differing entirely* from the truck of his patent No. 419,876. The Peckham Company's advertisement in the *Street Railway Journal* of October, 1889, states (Record p. 32):

> "The illustration in figure 1 represents a *new truck* gotten up by Mr. E. Peckham, President of the Peckham etc., Company." "Instead of having the springs placed as usual on the pedestals, one on each side of the car is located at each extremity of the frame, and the others at points between the axles equi-distant from the outer springs. This arrangement, as will at once be seen, *must entirely prevent any rocking motion.*"

September 17, 1889, Peckham applied for a patent on this last type of truck, which was issued January 21, 1890, as No. 419,877. Peckham (pp. 85, 86 of Record) describes this truck as his "first extended spring base truck." His affidavit states that subsequently he added a rubber *tension spring* and after that a spiral tension spring, under the lower chord of the truck frame (p. 86).

Peckham says at page 86: "I adopted this method in 1890 or 1891." The Peckham Company *continued to advertise this all-spiral truck* until about December, 1895. (Curwen, pp. 56, 57.)

The respondents' affidavits nowhere show distinctly just when the Peckham Company adopted the combination of the patent in suit, but there is enough in them to establish that

it was not *before* 1892. We ask attention to the evidence on this subject.

Peckham states, at page 91 of the Record, that his *sales* of the truck in question had "extended over some eight years or more." This affidavit was made October 25, 1900. Consequently he must have begun these sales about October, 1892.

Again the Peckham patent of July 7, 1896, No. 563,685, specifically describes a truck having *the same combination* of spiral and elliptic springs *as in the patent in suit*, combined with the tension spring above referred to, *the whole being respondents' present truck structure.* The application for this patent was filed March 12, *1894*. Now, he says that the spirals and the tension springs of this patent were old and had been used by him. If he had also used the elliptics in combination with them for more than two years before his application for a patent on the combination of all three, he had thereby abandoned the subject-matter of the application, and his oath in support of it was false. It would appear, therefore, that the truck of patent No. 563,685 (that is, elliptics combined with his old spirals and tension springs) could not have been in use by him for more than two years prior to March 12, 1894 (*i. e.*, March 12, 1892), *which was fifteen months after the first Brill trucks were put into use* at Cleveland (in January, 1891) and *five months after* the Brill truck was exhibited at the Convention of the Street Railway Association, at Pittsburg (in October, 1891), and was seen there and in use on a Pittsburg street railway by the trade (and presumably by Mr. Peckham, a leading truck builder) at that time.

The affidavit of Peckham (bottom of p. 87, etc.) refers to his having introduced a semi-elliptical spring, etc. In the same passage he is speaking of the lateral and longitudinal motion of the car body in relation to the truck frame, and its prevention by substituting an elliptical spring, in place of his former spirals, to obviate this motion. He is, therefore, en-

tirely mistaken in saying that he used a semi-elliptical spring for that purpose, in any connection. Clearly a semi-elliptical spring would not prevent either lateral or longitudinal motion. Its *ends* must have *free motion*, and therefore it could not prevent motion of the car body in any horizontal direction whatever.

In adopting the combination of spiral and elliptic springs of the patent in suit, they took it outright. They, however, added a feature to it by fastening the top of the elliptic to the upper chord, and they say that their elliptics were so made as to take the stress of the load and that their spirals were made to supplement the elliptics. As. J. R. Beetem states (p. 102 of Record):

> "The spiral springs are made weaker and reinforce the elliptic springs as the load of the car increases."

If the inference that their elliptic springs are stronger than their spiral springs is to be drawn from the affidavits, the statement is too vague to have much weight. The respondents should have shown more specifically to what extent their elliptic springs are the stronger and controlling springs, for it is obvious, if their elliptics and spirals are *substantially* of the *same* strength, that in a truck which has *six* spirals and only *two* elliptics on a side (as in the respondents' "Extra Long" truck, Record p. 45, Exh. I) the greater part of the weight would be borne on the spirals, and if the respondents had wished to show that the contrary is the fact, they should have shown clearly that their elliptics are always *in the aggregate* stronger than their spirals. True, the respondents could not escape infringement merely by showing that they made their elliptics substantially stronger than their spirals. We merely wish to show that the *theory* upon which they seek to take their trucks out of the operation of this patent is not founded upon fact.

The rigid attachment of the upper part of the elliptic spring to the upper chord in the respondents' trucks is a matter of no

importance in the present case. Mr. Livermore considers this subject at page 72 of this Record, at too great length for quotation here. The attention of the Court is asked to his statements.

Having briefly set out the course of the introduction of the truck of the Brill patent in suit (in 1891) and of the successive steps taken by the respondents up to the time (1892) when they fully adopted and began to manufacture the truck of the patent in suit, we proceed to consider the theory upon which they justify their acts.

Theories by which respondents attempt to differentiate their Truck Structure from Claims 1 and 2.

Called upon to produce some theory upon which a defence could be based, the respondents' experts evolved the following:

1. That the so-called "underlying" *tension spring* in respondents' truck placed under the stationary side beam or truck frame, is *its sole factor in overcoming oscillation.*

2. That there is no such thing as overcoming oscillation by difference of rhythm between spiral and elliptic springs.

We will take up these theories in order:

1. THE RESPONDENTS' THEORY THAT THEIR TENSION SPRING IS THEIR SOLE FACTOR IN OVERCOMING OSCILLATION.

A new importance is now attached to this tension spring, which the history of the truck structures of the Peckham Company and of its patents has never disclosed to the world.

We will discuss the subjects from the point of view:

A. Of the advertisements of the Peckham Company in its business.

B. The disclosure of certain Peckham patents.

C. The construction of the respondents' structure.

A. Their "non-oscillating electric motor truck" of 1889 (Exhibit A, p. 40) *does not have this tension spring*, and yet it was advertised (Record p. 32) as "an admirable solution of the problem of oscillation."

Their trucks advertised in June, 1890, as "*warranted to prevent oscillation*," "*positively prevents oscillation of cars*," do not have this tension spring (Curwen, pp. 56, 57).

On the other hand, in the Peckham advertisements of trucks *which have this tension spring, no attention is called to its value*, but on the contrary, we find in their advertisement of February, 1893, a "Standard" truck, in relation to which it is stated: "*elliptic and spiral springs* so combined as to give the utmost *elasticity* with both light and heavy loads." (Curwen, p. 57.) (Clearly this means car-supporting springs only.)

Mr. Curwen (Rec. pp. 56, 57) states that in the Peckham advertisement of October, 1895, containing drawings of "Excelsior," "Standard" and "Extra Long" trucks, there is the following statement in regard to those trucks:

> "Why Peckham's cantilever extension trucks are superior to other trucks."
>
> "4th. Because the *elliptic* and *spiral springs* SUPPORTING the car bodies are so arranged as to give an easy-riding car, whether light or heavily loaded."

The Peckham advertisements, which Mr. Curwen there quotes (which are intended to set forth the virtues of the very Peckham trucks now in controversy), contain *no reference to tension springs* as a valuable or efficient part of any of these three trucks.

B. Again let us take up the Peckham patents in evidence. They also *completely negative the respondents' contention* that

this tension spring is "alone relied upon to overcome galloping," upon which they practically rest their case.

The first Peckham patent showing a tension spring is No. 555,530, dated as late as March 3, 1896, and applied for June 11, 1895. The specification refers to this "counter" or tension spring (p. 2, l. 14) but *says nothing of its utility in preventing oscillation*, though the express object of the invention is to "*prevent the car from oscillating*," an object which it accomplishes by providing *side frames* with means for accommodating at given points springs of different types (not tension springs).

The next Peckham patent in which a tension spring appears is No. 563,685, issued in 1896, July 7th, application filed March 12, 1894, and prior *in application* to the last mentioned patent. In this patent (p. 3, line 23) the tension spring is referred to thus:

> "The function of the under tension-spring 61 is to *take up lost motion* of spiral spring 59 and to *keep the same in proper tension*, thereby providing at this point of the truck structure what I term a '*tension*' *appliance*."

And p. 3, line 38:

> "And by this disposition of the springs I am also enabled to combine advantageously with the spiral spring 59 the lower tension-spring 61, thus providing an effective *tension device serving to prevent breakage of the elliptical springs by upthrusts of the truck*, the said tension device also relieving the car from shocks by cushioning the nut 62 at the bottom of the rod or bolt 60."

No reference is made in the specification of this patent *to any effect of the tension spring in lessening oscillation*. Indeed its name indicates its sole function.

Of what value, therefore, is the statement of Peckham, in his affidavit, p. 87, where he says that his tension spring constitutes his sole anti-oscillation device.

And what possible ground for the statement made in the Brief in the Court below that "it [the tension spring] is the only provision in the defendants' trucks to overcome galloping, and that is its sole function."

And what basis is there for the statement made in the Brief in the Court below, that "neither he [Peckham] nor the Defendant Company . . . has ever made any four-wheeled street car truck in which any other means than this underlying spring has been relied on to overcome galloping."

Such evidence of the *solemn acts* of the respondents in their business, in their dealings with their customers and with the public, and in their letters patent on their trucks, and relating to a *time when no suits were pending or threatened*, is certainly more persuasive than the theories of patent experts, formulated in the eleven days that elapsed between notice of the motion for a preliminary injunction and the hearing of the motion.

C. Again, an inspection of the respondents' "Excelsior" truck (shown at 45 of the Record) will satisfy the Court that *this slight tension spring* cannot possibly have the effect on the operation of the truck attributed to it in the respondents' affidavits. In this drawing it is said to be "*concealed*" in a box in the truck frame. Obviously, it is but *a slight affair* relatively to that truck structure. If we suppose an "Excelsior" truck running at speed with a load of seven tons of passengers, a number of them crowded on the platforms which have an overhang of many feet beyond the location of this "tension" spring, it will be seen at once how entirely inadequate it is for the purposes claimed for it in the respondents' affidavits. Would this light spring check the upward movement of the end of the loaded car, the downward movement of which requires two *heavy* spiral springs and one elliptic spring on each side to sustain and check it?

And if called upon to play any serious part in checking the upthrust of this great strain, is it not clear that the nut on the lower end of the bolt would at once shear off?

Again, while one end of the truck is rising so as to bring the two small tension springs at one end into play, the elliptic and spiral springs at the other end [six in all at each end of Excelsior and Standard, and eight in the Extra Long], are being compressed to limit the elevation of the other end of the car, and these co-operate together at the depressed end to resist the elevation of the other end, just as they do in the Brill truck under like conditions. It is very plain that in the Peckham trucks, the resistance by the elliptic springs to an upward movement, and the resistance by the compression of the elliptic and spiral springs at the other end to a corresponding downward movement would be sufficient to avoid a tendency to undue oscillation without calling in the aid of these tension springs at all.

The affidavit of H. F. Newbury (p. 115) sets forth that these tension springs

> "Will be further compressed upon the upward movement of the car body . . . and the further compression of these spiral springs will be in proportion to such upward movement of the car body *until they are fully compressed, when they positively arrest such upward ment.* When this upward movement of the car body *is thus arrested, it cannot move further upward without lifting the lower member* of the truck frame and its connected parts."

But the fact is that the upward movement of the car body at one end corresponds to the downward movement at the other end, where the latter is being checked by six heavy springs, four spiral and two elliptics. In this movement, possibly the tension spring may play a slight *additional* part, but the efficient work is obviously done by the heavy spiral and elliptic springs. That is, the oscillation in the Peckham trucks has been efficiently checked by the combined spiral and elliptic car springs of the patent in suit before this tension spring comes into play. What part is played by this slight

tension spring in this powerful movement of a heavy car and its many tons of passengers is at least problematical.

Mr. Newbury's statement that when the tension spring becomes fully compressed, there can be no further upward movement, is obviously true, because the tension spring has then become a *washer* and the nut underneath it has then been brought into close contact with the lower side of the side beam. And the same is precisely as true in relation to the *spring bolts* on the Brill truck, of which there are four on each side, *disposed precisely* as in respondents' "Excelsior Truck." After a certain amount of upward motion at one end of the car, the nuts on the lower end of these Brill *spring bolts* likewise *come into contact* with the under part of the side frame and *check the further rise of the car body.*

It will be observed that four experienced witnesses depose that all three of the respondents' trucks and the petitioners' truck *operate in the same way* for lessening oscillation.

John A. Brill (Record p. 39);
James Fagan (Record p. 50);
Harvey M. Littell (Record p. 53);
J. N. Akarman (Record p. 56).
See also Mr. Livermore (p. 71).

From all this evidence it seems to be fully established that the respondents' theory of the part played by their tension spring is entirely disproved.

The fact is, the respondents' truck *is the truck of the patent* in suit with a "*tension*" *spring added to it.* But this addition is nowhere shown to affect in any way the method of operation of the combination of spiral and elliptic springs of Claims 1 and 2 of the patent in suit, which combination is undeniably present in their trucks.

If the respondents believe, as stated by their former employee, Fowler (Record p. 95), "that the introduction of that lower spring [the tension spring] to resist the upper motion

of the car has been *perfectly effectual* in accomplishing the result for which it was intended," one may naturally ask why the Peckham Company did not confine itself to this device, and why, on the other hand, they appropriated the combination of the patent in 1892 more than a year after its introduction in the trade (January, 1891), applied for a patent for the combination of spiral and elliptic springs of the patent in suit in combination with this tension spring, in 1894, and are now strenuously contesting the rights of the petitioners under the letters patent in suit, notwithstanding that there is no present attempt to interfere with them in the use of their "perfectly effectual tension spring."

But the whole theory of the part played by the tension spring as the *sole factor* in the checking of oscillation in the Peckham truck is *negatived by their own witness Beetem*, who is their only *practical* man, who goes only so far as to say that this spring "*assists*" in checking oscillation (Record p. 103).

2. Respondents' Contention that there can be no Difference of Rhythm between the Spirals and Elliptics of the Brill Patent.

Again, the respondents endeavor to differentiate their trucks from the truck of the patent in suit by showing that "there can be no difference whatever between the rhythm of movement generally considered of two series of springs where one is stronger than the other, whether such two series be all of the elliptic form, semi-elliptic form or spiral form, or part of one and part of the other." (Newbury, p. 107.)

We show that this contention is untenable:

A. Judge Shipman's interpretation of the scope of patent is otherwise.

B. Practical street railway men testified otherwise.

C. Peckham's patents show the contrary.

D. The Peckham Company's advertisements show the contrary.

A. For the purposes of this present case, it is sufficient to say that Judge Shipman found otherwise in the Third Avenue case. Thus, in describing the invention of the patent in suit, Judge Shipman says (p. 141):

> "The elliptical springs are slower in their action than the spiral springs and neutralize the longitudinal oscillation of the car body. Mr. Akarman, a *practical trolley railroad superintendent*, stated the result and reason of it, as follows:
>
> 'From a practical observation my opinion is that the combination of an elliptical and spiral spring, as applied in trucks of this type, breaks the rhythm of motion, or interrupts it. In trucks with all spiral springs, or I should think, if it were possible to construct a truck having all elliptic springs, the rhythm of motion is perfect, the springs acting in unison. In the truck, as previously described, having the combination of elliptic and spiral springs, the rhythm is broken and the result is that the galloping or rocking motion was done away with.'"

B. In this finding Judge Shipman was supported not only by the *undisputed* evidence of Akarman but by Littell and Fagan, both *experienced and practical* railway men.

The deposition of Mr. Akarman to the same effect as quoted by Judge Shipman is found in the present Record at page 55.

At page 50, James Fagan, and at p. 53, H. M. Littell, make similar statements.

No practical street railway man has been produced to rebut this evidence. Even Peckham himself does not attempt to deny it. Indeed, in the face of his own patents, now to be referred to, he could hardly attempt to do so. On the other hand, he *admits* it, for he speaks of the Brill construction as a "system which depends upon a difference of rhythm of action between elliptic and spiral springs" (Record p. 86). Beetem, who is

a *practical* railway man, does not attempt to controvert the the position as to rhythm taken by Akarman, Fagan and Littell and adopted by Judge Shipman. Indeed, none of the respondents' witnesses so attempt, except one of their experts. Even Fowler does not, and Newbury himself seems substantially to admit the existence of a difference of rhythm between springs of different character.

C. Furthermore, the *patents of Peckham* found in this Record show conclusively that the contention of the respondents that the use of springs of different character do not lessen oscillation, is entirely untenable.

Thus, patent to Peckham, No. 555,526, dated March 3, 1896, application filed August 18, 1891, is one of the first of the Peckham patents to mention the evils of oscillation and to suggest a means of lessening it. That patent discloses *all spiral springs* (no elliptics). In the specification, after stating that the object of the invention "is to construct a car truck wherein end oscillation or tilting of the car body mounted thereon will be largely if not entirely avoided," it is stated (p. 2, line 71):

> "The springs located on the truck frame . . . are of *different degrees of stiffness*, and they are so disposed with relation to the truss frame . . . as to insure under all conditions an easy riding car and to distribute the load, particularly when the car is filled with passengers or otherwise heavily loaded, upon such springs approximately in proportion to their stiffness. . . . "

Again, take patent to Peckham, 555,530, dated March 3, 1896, application filed June 11, 1895. Fig. 1 of this patent shows the very arrangement and combination of spiral and elliptic springs shown in Fig. 1 of the patent in suit; and it is also the respondents' "Excelsior" truck. The specification states, p. 1, line 15:

"A further object is . . . to provide such side frames with means for accommodating at given points *springs of different types*, made use of for neutralizing shocks imparted to the wheels and body of the car, and *for preventing the car from teetering or oscillating when in motion.*"

Patent to Peckham, 563,685, dated July 7, 1896, application filed March 12, 1894. This shows in the drawings and claim as new the construction of two of the trucks now in controversy, viz., the "Standard" and "Extra Long." The specification states, p. 1, line 12:

"The invention is hereinafter described . . . and its object is to relieve the truck frame from shocks or concussion and to *prevent the oscillation of the car when in motion.*"

Also p. 1, line 84:

"The *particular combination of elliptical and spiral springs* and tension appliance hereinafter described is, however, one of the improvements forming the subject of this application."

It will be observed that the dates of the last two patents are respectively as late as March 3 and July 7, 1896, and that the above-mentioned Peckham patent (555,526) was pending in the Patent Office from August 18, 1891, to March 3, 1896.

D. Again, the Peckham advertisements of these trucks show the same position always to have been taken by Peckham, viz, that he depended on the combined spirals and elliptics to overcome oscillation. See Curwen (Record p. 57).

In February, 1893, they advertised their "Standard" truck thus:

"Guaranteed to prevent oscillation of 30-foot cars."

"*Elliptic* and *spiral springs so combined* to give the utmost elasticity with both light and heavy loads."

In October, 1895, they advertised all three of their present types as follows:

"Why Peckham's cantilever extension trucks are superior to other trucks."

"4. Because the *elliptic* and *spiral springs* SUPPORTING the *car bodies* are *so arranged* as to give an easy-riding car."

In December, 1896, they advertised all three forms of construction as follows:

"Why Peckham cantilever trucks are superior to other trucks."

"6. Because the *elliptic* and *spiral springs* (SUPPORTING the *car bodies*), BEING GRADUATED, give an easy-riding car, whether light or heavily loaded."

It appears, therefore, that our theory upon which the combination of spiral and elliptic springs of the patent in suit is efficient in checking oscillation is supported by the opinions of three practical railway men, has been found as a fact by Judge Shipman, and has always been distinctly recognized in the advertisement of the Peckham Company and in the patents taken out by it and by Mr. Peckham. Against this mass of testimony we have the opinion of three *theoretical* experts who appear to have given to the subject a few days' consideration.

We submit that the attempts to differentiate respondents' trucks from the structure of the patent in suit is shown to be untenable.

As to the respondents' contention that they "adopted" elliptic springs merely to prevent swaying of the car body on the truck.

It is urged by the respondents that they had used *all spiral* car springs prior to 1889, and, soon after, tension springs, and they allege that later (but it could not have been before some time in 1892) they introduced the combination of the patent in suit. If so, they did this more than a year after the trucks of the patent in suit had gone into the trade and into use, and (as Judge Shipman says, p. 142) had "attracted the immediate attention of railway superintendents [been] found to accomplish its object and to be almost a complete remedy" for oscillation.

It would seem to have been an ordinary case of the appropriation of another man's invention, by which, it appears, they succeeded in selling some 10,000 trucks, which presumably they could not have sold had they confined themselves to their own truck structures of 1890-1892, with all spiral springs. Evidently they were driven to it by trade necessities. They now say that they did not "adopt" elliptic springs for the purpose for which they are used in combination with spiral springs in the patent in suit (the lessening of oscillation). The reason they allege is given by Peckham (Record, pp. 87, 88):

> "I soon found that these spiral springs did not give as much resistance as was desirable to lateral and lengthwise motion of the car body in reference to the truck frame. This was due to the fact that the bearing of the bolts or stays passing from the car body to the truck frame was so short below and extended so far above that motion laterally and longitudinally was unavoidable. To overcome this, and *for no other reason whatsoever*, I . . . introduced a . . . . full elliptical springs . . . I repeat that *it was for this reason*, and for no other, that

I substituted the elliptical springs for one set of the spirals in my construction."

To show the error of all this contention, we ask the Court to look at the "Extra Long" truck at p. 45, Exh. I. It has *six of these spring bolts to a side* passing *snugly* through the side frames. Four of these have as long an extension below the top of the side frame as they have above them, giving a very firm bearing. With these spring bolts alone there could be no swaying. Besides this, on *each* side are *four* posts which are rigidly fastened to the upper frame and run through the yokes or pedestals. The bearing of these posts in the pedestals is probably eighteen inches. The part above the pedestal is probably not over three inches. These latter bolts alone would entirely prevent any material lateral or longitudinal swaying motion of the car in relation to the truck. In all, then, there are twenty bolts on the "Extra Long" truck intended to prevent swaying and obviously entirely efficient for that purpose. On the "Standard" and "Excelsior" there are sixteen such bolts.

In the light of these facts, the respondent's "*reasons*" for appropriating the combination of the patent in suit are, we submit, entirely untenable. Such a defence casts suspicion upon the sincerity of the entire defence.

FACTS APPEARING IN THE COURSE OF CERTAIN CORRESPONDENCE BETWEEN THE PARTIES IN 1897, LONG BEFORE SUIT BEGUN, SHOW THAT ANY CONTENTION BASED UPON THIS PECKHAM PATENT 419,876 CANNOT BE SERIOUSLY MADE BY RESPONDENTS' COUNSEL.

Certain acts of the respondents shown in this Record, are distinctly persuasive, *at least in the present* proceedings, as disposing of any contention based upon this Peckham patent, 419,876. They are as follows:

The affidavit of Hensley (Record p. 60) sets forth that in 1897, the complainant, John A. Brill, notified the Peckham

Company that it was infringing upon the letters patent here in suit and that "as soon as Mr. Brill's rights under this patent were determined by suit which he intended to bring in or about New York, he would proceed against it (the Peckham Company) for infringement." The affidavit further states that the Peckham Company then retained Charles H. Duell, Esq. (the present counsel for the respondents), as its counsel in the matter. Mr. Duell and Mr. Levy, the latter representing the petitioners, had a number of interviews in relation to the alleged infringement, the result of which was that on November 12, 1897, Mr. Duell wrote Mr. Levy a letter which is set forth on page 60 of this Record. In it he says:

> "I have *devoted a great deal of time and have had the assistance of others skilled in the art*, because it has been my desire to make a *full* and fair *investigation* and with the idea of trying to adjust the differences between our clients. . . .
>
> "While I have not been able to complete my report owing to inability to obtain copies of some *foreign patents and publications*, yet it has progressed so far that I have come to the conclusion that I must *advise my client* that it *has a complete defense* to any suits that may be brought upon any of the patents in question.
>
> "While I should prefer to avoid litigation on account of the expense connected with it, and because my client has no desire to see patents overthrown, yet if suits be brought, we are prepared to *maintain our position at any cost.*
>
> "While the *prior art is replete with anticipating and limiting patents*, with many of which, doubtless, you are familiar, yet in fairness I will call your attention to some of the many patents *upon which I shall rely in case of suit.*
>
> . . . . . .
>
> "Referring to Brill patent No. 478,218, I would call your attention to the following patents":

Here follows, on page 61 of the Record, a list of fifteen patents to which Mr. Duell refers. The list *does not include this Peckham patent 419,876.* Mr. Duell could not have been ignorant of its existence, for it was a patent *issued to his client, and,* as it shows on its face, was *actually solicited* in the Patent Office by Mr. Duell's own firm of patent solicitors, "Duell, Laass and Duell."

This is more than an ordinary and casual expression of opinion by counsel. It is the deliberate opinion of counsel of experience when endeavoring to make out the best possible case for his client in an attempt to avert a threatened law suit —an opinion reached "after a full and fair investigation," with the expenditure of "a great deal of time."

It was *not* an attempt to "buy peace," but to repel invasion, and it may, therefore, rightly be referred to.

In the present proceedings, at least, this must tend to throw some doubt upon the sincerity of the contention of respondents as to the weight that attaches to this Peckham patent 419,876, as imposing a vital and destructive limitation upon Claims 1 and 2 of the patent in suit and the meritorious invention which it discloses.

It may be observed that the counsel referred to occupied an official position while these proceedings were in the Circuit Court and the Circuit Court of Appeals, and was not concerned in the case, so far as appears, till it came into this Court.

The Court below erred in finding that it was not necessary for Judge Shipman, in the Third Avenue Case, to define accurately Claims 1 and 2.

The Court below in refusing to give due weight to Judge Shipman's adjudication in the Third Avenue case, stated the following reason :

> "In that action the infringement of these claims [1 and 2], as well as that of several other claims in the patent, including numbers 9, 10, 11 and 14, was alleged by the complainant, and the question of their validity, as well as their infringement, was *strenuously contested;* and upon final hearing the Court adjudicated the validity of all the claims and held them to be infringed by the defendant. Inasmuch, however, as the infringing car trucks embodied the combinations specified in all the claims, it was not *necessary* in that case for the Court to *accurately define* Claims 1 and 2 in order to determine what, if any, limitations *not expressed* therein *were to be read into them by implication.*"

We shall show that this was clear error and that the precise issues before Judge Shipman *did require* him to define Claims 1 and 2 accurately.

The trucks there complained of were built by the Bemis Company for the defendant. The former assumed the defence. The complainant's case was to establish the validity and infringement of both groups of claims. The defendant attacked the validity of the first group (1 and 2), but never attempted to limit them to less than their literal scope and never seriously denied their infringement. As to the second group (9, 10, 11 and 14), the defendant did not contest their validity, but sought to show that they had not been infringed—that is, that its trucks did not, in fact, have the element of subsequent spring compression, but that all the springs of its trucks came under simultaneous compression at all times. (Obviously this was an admission that they *did* infringe Claims 1 and 2 when construed literally.)

Much evidence was adduced on both sides as to whether the defendant's trucks had or had not the feature of subsequent spring compression; the defendant endeavoring to prove that its trucks were not arranged for subsequent compression. Part of their evidence showed that after the trucks were

put in use, the elliptical springs "settled" and blocks of wood, of about an inch in thickness, were inserted over the elliptical springs, to bring them into contact with the upper chord or car sill (thereby eliminating the feature of subsequent spring compression, avoiding infringement of the second group of claims and bringing the trucks within the scope of only the first group of claims).

Judge Shipman, in his opinion,

1. Found Claims 1 and 2 valid and infringed, the defendant itself having admitted that it had used a number of trucks in which the feature of *subsequent spring compression* was *not present*, and never attempting to deny infringement of the broad Claims 1 and 2. For this reason it was not necessary for Judge Shipman, in his opinion, to *discuss* infringement of Claims 1 and 2.

2. He sustained the validity of the second group.

3. He found, as a fact, upon a consideration of all the evidence, that in some of defendant's trucks, *when first put in use*, the springs were so arranged that the spiral springs came under compression before the weight began to come upon the elliptical springs.

In his opinion, after considering the prior art, Judge Shipman said:

> "The **contest** in regard to *infringement* related to Claims 9, 10, 11 and 14, the controversy being whether the elliptical springs in the defendant's trucks were so arranged with reference to the car body that the weight came upon them as soon as it came upon the spiral, so that there was no compression of the spirals before the weight began to come upon the elliptics."

The subject can be made even clearer if we show the history of the *different forms of use* by the Third Avenue Railroad Company of the trucks there in controversy. It was proved that such uses were of two different kinds, as follows:

1. Trucks having a prior compression of the spirals and a subsequent compression of the elliptics.

2. Trucks having a simultaneous compression of both the spirals and elliptics when *only* the weight of the *empty* car body rested thereon.

We will briefly review the testimony. The pages noted are the pages of the Record in the Third Avenue case, which is now before this Court.

The *construction* of the trucks there complained of is shown in two photographs, at pp. 330 and 331, and "Complainant's Exhibit, Benjamin drawings," pp. 328, 329. The history of their *use* is made clear by the following extracts from the record in that case:

McGowan was the defendant's shop foreman. He testified, page 17, that when these Bemis trucks first went into use the shoe over the elliptical spring was secured directly to the sill of the car; that at that time "there was about one-quarter of an inch space, as near as I can remember, between the iron shoe and the band of the semi-elliptic spring;" that the Third Avenue Company began to use blocks of wood between the shoe and the car sill, about 1896, about one or two years after they first went into use; and that these blocks of wood were about half an inch thick. [They are shown in the two photographs.]

Robertson, superintendent of the Third Avenue Railroad, testified (p. 65, q. 44) that as near as he could recollect all of the trucks were provided with these blocks in the winter of 1895 and 1896. (They had been put in use in 1894.)

These blocks of wood were used to make the shoes take a bearing on the elliptic spring. (See Benjamin, p. 12, xq. 9.) Robertson (p. 63) testified: "Owing to the settlement of the elliptic springs we had to place a block between the spring shoe or plate and sill of car body so that the elliptic spring would come into use." These blocks varied from half an inch to about an inch, according to the settlement of the springs

(xq. 27); and this was decided by the "distance between the top of the spring and the spring shoe." (xq. 28.) He put in "whatever thickness was required" to "*bring the top of the spring in contact with the spring shoe.*" (xq. 32.)

Referring to the time when these trucks were *supplied* to the Third Avenue Company by the Bemis Car Box Company, Robertson testified (p. 64) that "when the weight of the body came on the spiral springs, the elliptic spring and shoe were about in contact." "As I viewed it, the spiral springs carried the weight of the body and the elliptic were a reinforcement to carry the passenger weight." Also that "when the car body was loaded the elliptic springs would come into play and consequently be depressed." Further explaining the blocking down of the shoes, he testified (p. 64):

> "×Q. 36. And you inserted the blocks between the spring shoe and the car sill so as to maintain the relative position of the elliptic spring, namely, that it should take its share in supporting a loaded car? Do I understand you correctly?
>
> "A. That is right.
>
> "×Q. 37. And the block that you put in was of sufficient thickness to force the spring shoe in contact with the elliptic spring under the weight of the car body without passengers? Is that correct?
>
> "A. What I mean by contact is simply just touching, without taking any load whatever."

The blocking down of the shoes is fully explained by Robertson at page 67: "The primary cause was that the spring was not large enough to do the work required. The primary cause was the size of the springs and not being large enough to carry the load required . . . the result of which was that the [elliptic] spring has settled." (The elliptic springs having taken a permanent set, the original distance between the top of the elliptic and the shoe was thereby increased.)

McGowan, being recalled (pp. 69, 70), referring to the condition of the trucks at the time he testified, June 30, 1898, said that the spring shoes over the elliptic springs are at the present time . . . "in contact with the spring shoe above them." He could not say whether all the elliptic springs were in contact or not at the time these trucks were received by the Third Avenue Railroad Company. There were some that were not in contact. He determined this by putting his rule between the shoe and the spring at a time when the weight of the empty car body was on the truck. In some of the trucks the weight of the car body caused the shoe to take a bearing on some of the elliptic springs. The rule he used was one-eighth of an inch thick, and that was the space he found between the elliptic spring and the shoe in some of the trucks before the weight of the car body was placed thereon. In the use of the trucks where the space between the elliptic spring and the shoe got to be about an eighth of an inch, they blocked them down "*so that the shoe would touch the top of the spring.*" (p. 71.)

Fleming testified that he "assembled" some of the Bemis trucks as they were received from the manufacturer and also assisted in placing the car bodies on them. He said (q. 26, p. 251):

> "When the car body was at rest on the springs and the parts fastened, state whether or not there was any space between the top of the elliptic springs and the caps over the elliptic springs? Answer. *Some of those springs scarcely touched the cap, while others did.*"

Thus it was established that the various uses by the Third Avenue Company of its trucks responded exactly to the requirements of both of the two groups of claims of the patent in suit.

We may observe that the Benjamin Drawings, put in evidence (pp. 828, 329) in making out the *prima facie* case, dis-

close a slight space over the elliptical springs; but these were made from a single car out of 182, and were made long after the cars had been in use and the elliptical springs had settled, whereas, the employees of the defendant company testified fully as to the use and condition of *all* these cars from their first installation and *during the entire period of their use from 1894 to 1897.*

We submit that it is fully made to appear that the facts of the case before him made it absolutely necessary for Judge Shipman "to accurately define" the scope of Claims 1 and 2, and that the Court below was under an entire misapprehension of the significance of the Third Avenue case, and committed an error when it found that "it was not necessary in that case for the Court to accurately define Claims 1 and 2 in order to determine what, if any, limitations not expressed therein were to be read into them by implication."

As to respondents' contention that the scope of Claims 1 and 2 is limited by the disclosures of the file wrapper.

Respondents' expert, Mr. Abbott (p. 128, Record), states the respondents' position as follows:

> "In view of these *repeated assertions* by applicant that his invention, as intended to be claimed in the Claims 1, 2, 3 and 4 . . . . , required the combination of spiral springs to normally support the car and its load, and weaker elliptical springs to act as supplements to the spirals, and at a later time the Examiner appears to have allowed the claims."

We will now show that this statement (except the last two lines) is entirely erroneous.

The following is an abstract from the File Wrapper and Contents of the application for the patent in suit (see Def. Rec. in Brill *vs.* Third Ave.):

Claims 1 and 2 (which were Claims 2 and 4 of the original application) are found at pp. 231, 232.

They were amended (April 22, 1892,) only to correct the spelling of the word "elliptical," and *were allowed as filed.* The following is their history:

On August 22, 1891 (pp. 239, 240), the first official letter stated as follows:

> "By reference to Peckham 419,876 [printed 410,876] January 21, 1890, it will be noticed in figures 4, 5 and 6 that semi-elliptic springs are used for the end of the car. It is held that no patentable difference exists in substituting an elliptic spring for the spring named, and especially in view of the following patent, wherein elliptic springs are shown for the end of the car, Taylor, 437,167, September 23, 1890. The arrangement of the upper and lower frames and the springs is in other respects very similar to Robinson, 451,952, May 12, 1891. (These references are all in Trucks, Street Car and Motor.) In view of the patents cited, therefore, Claims 1, 2, 3, 4, 11, 12, 13, 16, 17 and 25 are rejected."

The applicant replied to this official letter, on September 10, 1891 (pp. 240–242), thus:

> "(13). In view of the large number of claims rejected and the number of references cited, it is respectfully requested that each claim be treated separately *so that applicant may know what particular reference is cited against each particular claim.*"
>
> "(14). It may here be well to call the attention of the Office to the following:
>
> "That applicant's structure is a concrete truck independent in every way from a car body or its framing."

(Then follows a discussion, quoted below, of the Robinson, Taylor and Peckham patents.)

The official letter of October 29, 1891 (pp. 242–244), set forth:

> "It is not understood what is meant by saying one set of springs being slower in their action than the other set, as set forth in Claim 1 [original] and in other claims."
>
> "All that can be said is that one set of springs do not take a bearing or do not come into action until the other set have been *partially* compressed, *and this quality is set forth in some of the claims.* It is not seen how *slow* springs or *fast* springs can be properly the basis for claims."
>
> "Claims 1 and 3 [originals] include 'one set of springs slower in their action than the other set,' and as this expression is not fully understood, the claim may receive a further consideration after an explanation."
>
> "Claims 2 and 4 [now 1 and 2 of patent] *include and seem to depend for novelty* upon the idea of having *elliptical* springs at the *ends*, and in view of patent to Manier, August 17, 1889, 409,993, and Taylor of Record *which show the elliptical springs*, these claims are rejected."

[Observe that the Patent Office has now *withdrawn Peckham* 419,876 as a reference to *these two* (*broad*) *claims*, and therefore no future communication between the applicant and the Office can have any reference to the Peckham patent.]

What the Examiner *then* understood to be comprehended by the then Claims 2 and 4, was not a combination depending *upon time of action*, but a *broad idea.*

After several non-pertinent actions, the applicant filed an amendment and an argument (pp. 246–252). The following extracts are pertinent:

> "(3) The phrase in Claims 1, 3 [original]—'springs slower in their action than the other set'—is understood to mean as follows:
>
> . . . . . .

"It is well known that a spiral spring is quicker than an elliptic spring in recovering itself.

"Applicant has placed spiral springs primarily to support the weight of the car body, and has used the elliptical springs for the purpose of assisting the spiral springs in this regard after a certain compression of the spiral springs has been had. When the car body is depressed, the spiral springs *begin* to take up this action, and a *further depression* of the *car body* falls upon *both* the *spiral* and *elliptic* springs, the spiral spring sustaining the *greatest* amount of the *weight*. On the recovery the spiral springs exert the greatest lifting power, and by reason of their acting *quicker* than the *elliptical* springs, commence the lifting action before the elliptical springs come into play. The elliptical springs follow the spiral springs in the upward movement of the car body, *and during this upward movement*, (*as well as at other times*), they *also act* as equalizers, *counteracting the end oscillation of the car body*.

"If springs as *quick* in their action as the regular springs for supporting the car body were placed on the *extended ends* of the *side* beams, the before-stated action *could not take place*, and the spring action on the car body would be *too quick and jerky*.

"It is proposed in the present structure to use spiral *springs slower than usual* and to assist the action of the spiral springs by *elliptical springs slower in their action* than the spiral springs, so that the spiral springs will permit the car body to ride easier and smoother, and the elliptical springs assisting the spiral springs after a *certain amount* of movement by the spiral springs has been had, the action of the elliptical springs being softer than that of the spiral springs, gradually taking up compression, and making such compression soft and smooth. In the same way a softer recovery is had.

"A reconsideration of Claims *1 and 3* is respectfully requested in view of the foregoing."

"(4.) *As regards the 2nd and 4th claims* [now Claims 1 and 2 in suit]:

"The patent to Manier does not contain *the combination* of either of these claims. In that patent, the truck frame A is composed of the upper and lower side bars A^1, A^2 and bars D, D. He states he can use the elliptical springs shown in figure 3, *instead* of the spiral springs shown in figure 1 *in* the extensions of the truck frame, *but he nowhere hints at the combination of the elliptical and spiral springs for supporting the weight of the car.*

"He further states that when the car is mounted on the bars J, the weight thereof is transferred to the ends of the truck exterior to or beyond the axles. He further states that the movement of the body (meaning the body of the car) on the truck frame is entirely independent of the movement of the truck frame on the car axles. The springs F are not 'springs located between the movable and stationary frames.' They are located between the upper side bars A^1 and the axle boxes. *The combination of the second and fourth claims cannot be answered by figure 3 of this patent by reason of the foregoing.*

"The spring-supporting frame set forth in the fourth claim in the application are the side bars, etc., on which the spiral springs F of the Manier patent rest, *while in the* [*Manier*] *patent they rest on the axle boxes.* In the application the elliptical springs also *rest on the side bars or spring-supporting frame.* The spirals between frame A^1 and boxes are in no sense car-supporting springs, as the lower frame A^2 is the spring-supporting frame, and takes the weight as the specification states.

"*It will thus be seen that this patent does not contain the combination nor the invention of either of these two claims.*"

"The patent to Taylor shows no spiral springs between beams A and the beam marked W, figure 2, supposed to be the car body. *It therefore does not contain the combination of the 2d and 4th claims.*

"A citation of these two patents to show the combination set forth in either the 2d or 4th claims, is not in consonance with Commissioner Simonds' opinion rendered in *ex parte* Shannon, October 29, 1891.

"In that case a number of references were cited, and the Commissioner held 'that, as no one of the references suggested an improvement which had been arrived at by claimant, that their multiplicity, when all had fallen short of the result which applicant had actually attained, was evidence of the exercise of patentable invention on his part. . . .'

"The answer to these claims cannot be built up by a number of references. In this case there is an entirely new mode of operation, and that is the test [of the patentability of a new combination]."

After several non-pertinent actions, the Office, on March 7, 1892 (pp. 256–257), wrote the applicant as follows:

"It seems evident from the argument that there is no patentable distinction between quick springs and slow springs, it being a mere question of degree. *Claims 1 and 3 are not patentable. Claims 2 and 4 are rejected for the reasons before given.*"

Here it will be noted that there is no change of *time* of action. Claims 1 and 3 related to *quick* and *slow* springs. Claims 2 and 4 were not rejected for *either* reason, but for "reasons before given," in official letter of October 29, 1891, *supra*.

On April 21, 1892 (pp. 257-260), the applicant requested a reconsideration, stating:

"In regard to the statement in the last official letter, as follows: 'It seems evident from the argument that there is no patentable distinction between quick springs and slow springs, it being merely a question of degree;' applicant would state that he is not endeavoring to obtain a claim for the combination of quick and slow springs solely, but he is endeavoring to obtain claims for *the combination with other elements of springs having certain capacities, by which combination results and modes of operation are obtained*, which are not shown or described in any patent heretofore cited by the Office.'

. . . . . .

"However, Claims 1, 2, 3, 4 (as per last official letter) embody structural features in addition to those of the springs, before stated."

Applicant asked that "*if the rejection is reiterated, a specific statement of reasons in regard thereto be made.*"

The Office letter of May 24, 1892 (pp. 260, 261), again rejected Claims 1, 2, 3, 4, and 34 to 37 inclusive, "for reasons before given." No new or other "reasons" were given.

The applicant then (p. 261) amended by cancelling Claims 1 and 3, the original Claims 2 and 4 then becoming Claims 1 and 2 of the application, and asked for a reconsideration of Claims 1 and 2 and the other retained claims, "*as the reasons for rejection have become very complex.*"

Without any further pertinent action, the application was *thereupon allowed* and the *patent issued* with Claims 1 and 2 *as originally filed and as here in suit* (pp. 262, 263, 264).

It is clear that the applicant nowhere made any statement or admission qualifying in any way the broad Claims 1 and 2, but, on the contrary, always insisted upon their broad scope; that the Examiner never urged the limitation upon these claims for which the respondents here contend; that neither applicant nor the Examiner ever used any words when speak-

ing of either original Claims 1, 2, 3 and 4 which in any manner referred to *relative time of action* of *either* of the sets of springs; that qualifying words were used only as to Claims 1 and 3 and then only as to *quick* and *slow* springs, this relating to the "capacity" of the springs; that as to original Claims 2 and 4 (now Patent Claims 1 and 2) no qualifying words whatsoever were employed; and that the Patent Office finally allowed them without change or qualification of any sort.

It cannot be said that the Examiner passed Claims 2 and 4 (1 and 2) with the *understanding* that they were to be read with limitations *impressed thereon.* It was his duty to insist upon such limitations being incorporated in the claims, if such was his understanding.

That it was not his understanding is clearly evident from the record, and from the fact that *other claims* (9, 10, etc.) expressed the limitation as to *time of action,* though not even to the extent now imposed upon Claims 1 and 2 by the Court below.

The Peckham patent No. 419,876 was disposed of early in the history of the proceedings in the Patent Office. It was cited by the Patent Office in so vague a way that it did not clearly appear as to what point or feature it was brought forward, so that the applicant was never obliged to give it serious consideration in regard to the broad claims of his application. Indeed it was *withdrawn by the Examiner* after the very first letter of the applicant to the Office pointing out its irrelevancy.

The foregoing view of the file wrapper of the patent in suit shows conclusively that it was the intention of Brill to claim the subject-matter of Claims 1 and 2 in the broadest possible way. Nowhere does the file wrapper disclose any waiver or abandonment of this intention, or any abandonment or modification of any claim which could be construed into an abandonment of the invention as broadly stated in Claims 1 and 2. To support this statement, it is enough to say that Claims 1 and 2 *were allowed as filed.* But we may go further and take up the claims as originally filed and as allowed.

Claims 1 and 3 as originally filed were subsequently cancelled. They contained no mention of elliptic springs; they were founded upon the *varying quickness of springs* as distinguished from *difference* in *character* and *rhythm*, which latter distinction was incorporated in the original Claims 2 and 4. The cancellation of original Claims 1 and 3 can therefore have no possible effect on Claims 2 and 4. Claims 2 and 4 were *retained* and were *allowed as filed.* They became Claims 1 and 2 of the patent, and are now before this Court.

Original Claims 5, 6, 7, 8, 9, 10, now Claims 3, 4, 5, 6, 7, 8, of the patent, were *allowed as filed.*

Of these claims, patent Claim 3 relates to the brace, as does patent Claim 4, and patent Claim 5 combines the brace with the spiral and elliptic spring combination. Claim 5 contains no limitation or subsequent compression of the elliptics.

Claim 6 relates to the brace.

Claim 7 relates to the specific construction of the brace.

Claim 8 relates to the combination of the brace with elliptic and spiral springs, but has no limitation as to subsequent compression of the elliptics.

Original Claims 11 and 12, now patent Claims 9 and 10, were *allowed as filed.*

Claim 9, patent number, was the *first of the series of claims to suggest the subsequent compression*, as does also patent Claim 10. Neither of these claims specifically names elliptic springs; the difference between Claims 9 and 10 is that in 10 the *end springs* were adapted to subsequent compression.

Original Claim 13, now patent Claim 11, and original Claim 17, now patent Claim 14, were *allowed as filed.* These were *the first of the claims* in which the elliptics and spiral springs were mentioned with the limitation of the subsequent compression of the elliptics.

Original Claim 14, now patent Claim 12, was *allowed as filed.* This is the first claim which expressly recites the movable connection between the car sill or upper frame and the elliptics.

Original Claim 15, now patent Claim 13, was *allowed as filed.* It relates to details of construction.

The contention that the applicant got through the Patent Office only by admitting, in some way, that his broad claims group was limited to subsequent compression, is, we submit, fully disposed of by the existence in the patent as allowed of the more limited group of claims. If the broad claims were to be limited, then Claims 9, 10, 11 and 14 were useless. And it can hardly be possible that the Patent Office could have permitted the broad claims to stand upon any mere verbal understanding that they would be considered as being in some way of only a limited scope.

Nor does the position taken by the applicant's solicitor in his correspondence with the Patent Office aid the respondents in any way. On the contrary, it shows most clearly that the *applicant maintained throughout* the position *that Claims 1 and 2 are broad claims.*

We shall now refer to so much of the letter of applicant's solicitor of September 10, 1891 (pp. 240–242), to the Patent Office, as relates to the Robinson, Taylor and Peckham, 419,876, patents, cited by the Office.

In considering these quotations, references to "*Groups*" 1 and 2 are to be understood as those Groups have been hitherto understood in this Brief and as they were classified by Judge Shipman in his opinion: Group 1 (consisting of Claims 1 and 2—originally 2 and 4) covers the broad combination of spiral and elliptic springs. Group 2 (consisting of Claims 9, 10, 11 and 14) covers the combination so arranged that there shall be subsequent compression of the elliptics.

> "Robinson, of Record, does not show nor describe the arrangement of springs of *varying tension* [This refers to original Claims 1 and 3, which were subsequently cancelled],
>
> "nor springs adapted to supplement the action of other springs, nor springs coming into action before the other [This is group 2],

"nor the combination of spiral and elliptical springs for supporting the movable frame of the truck [This is group 1].

"Taylor of record does not show nor describe springs of *varying tension* interposed between the movable frame and stationary frame [This refers to the original claims 1 and 3 which were subsequently cancelled],

"nor does he show a movable frame. His truck has but one frame, and the springs that he shows are secured to the car body directly.

"Nor does he show the combination of elliptical and spiral springs, interposed between the movable and the stationary frame of the truck [This is group 1],

"nor does he show one series of springs adapted to act before the other, one supplementing the other [This is group 2].

"Peckham describes nothing about one set of springs being *quicker or slower* than the other [This refers to original Claims 1 and 3 which were subsequently cancelled],

"nor one series of springs being adapted to act prior to the other series [This is group 2]."

The solicitor for the applicant did not, of course, in this letter, call the attention of the Patent Office to the fact that Peckham, 419,876, did not show the broad combination of spiral and elliptic springs for supporting the movable frame of the truck (the subject-matter of *group 1*), because the communication from the Examiner in relation to this Peckham patent *did not state that any such combination was found in that patent.*

The Examiner, in citing a number of *diverse* patents against a number of claims covering *diverse* subject-matter, went contrary to the rule of the Patent Office that each claim must be considered separately by the Examiner and the references must be cited directly to such claim. The solicitor, in his

reply to this communication, was therefore himself compelled to make the above analysis of the references cited against him, *and in effect*, as shown above, he said to the Examiner, in urging the withdrawal of the Robinson, Taylor and Peckham references:

> "There are in my application several groups of claims covering distinct and diverse subject-matter, but you bunch the Robinson, Taylor and Peckham patents, which show distinct and diverse subject matters, against them all, without specifically applying them to the respective claims or groups. But I now point out to you that neither Robinson nor Taylor show the subject matter of either group 1 or group 2. As to Peckham, you do not pretend that he shows the subject matter of group 1, and I now point out to you that it does not show the subject-matter of group 2."

This analysis of the proceedings in the Patent Office shows the error of the respondents' contention below that the applicant had insisted upon the peculiar method of coaction and time of operation of his combination of spiral and elliptic springs and had, upon this differentiation, avoided the alleged anticipating references hereinbefore mentioned.

Such is clearly not the case. The applicant took his ground as to Claims 1 and 2 and stood on it, and the Patent Office gave him what he asked for on those two claims and nothing less.

Robinson and Taylor, cited in the Patent Office, were not deemed of sufficient importance by Judge Shipman even to be referred to by name in his opinion in the Third Avenue case. Peckham, 419,876, was referred to by him and disposed of as irrelevant and as imposing no limitation upon the claims. Judge Shipman thus took the same view as the Patent Office finally took.

The successive steps in the Patent Office thus shown may be summed up as follows:

First, the Examiner cited Peckham (and Taylor) against a *number* of claims, including both the broad claims and the narrow claims, and thereupon rejected *all* of those claims. The applicant then presented an argument (just cited) in which he pointed out that the references did not apply to *any* of the claims. Thereupon the Examiner withdrew the references (Peckham and Taylor) and proceeded to cite Manier and Taylor as references. Again the applicant pointed out that these references did not apply to the broad combination of group 1 (Claims 1 and 2). Then, after further unimportant steps, the Examiner withdrew Manier and Taylor and allowed the broad Claims 1 and 2. Throughout the entire proceedings there was not even a suggestion anywhere of any limitations to subsequent compression being imposed upon these claims.

The cases which hold that limitations placed on the scope of a patent in its progress through the Patent Office affect its scope, do not apply. For instance, Morgan Envelope Co. *vs.* Albany, etc., Co., 152 U. S. 425, held that an inventor who acquiesces in the *rejection* of his *claim* in one form and accepts a patent with the claim changed so as to correspond with the views of the Patent Office, is estopped to claim the benefit of the rejected claim. This principle is perfectly well settled, but it has no application to the present facts.

In Hillborn *vs.* Hale & Kilburn Mfg. Co., 69 Fed. Rep. 958, 16 C. C. A. 569, it was held (Shiras, Circ. J.) quoting the syllabus:

> "The fact that numerous changes in phraseology were made in the claims, from time to time, to suit the views of the Examiner, and to distinguish the claims from those contained in prior applications, is no ground for defeating the patent, where the claims remain throughout the proceedings substantially the same, and were at no time inconsistent with those finally granted."

The case at bar is even stronger than this. Brill made *no changes* in the Claims 1 and 2; he urged their allowance

without any limitation at every stage, and they were finally allowed exactly as filed.

Reece Button-Hole Mfg. Co. *vs.* Globe Button-Hole Mfg. Co., 61 Fed. Rep. 958, is an interesting case on this subject. It, in effect, decides that mere discussions and communications back and forth in the Patent Office, not leading to any substantial amendment in the specification or the abandonment of some substantial feature of the invention, or the rejection of claims, fully acquiesced in by the applicant, are not to be considered as affecting the interpretation of the specification and claims of the patent when granted, and in such cases they have no different effect from prior negotiations between parties leading up to a formal written contract.

In that case, Putnam, C. J., said: "Courts ought, therefore, to be the more careful, under circumstances like those at bar, to give a patentee the benefit of all the equities which can be raised in his behalf, by any reasonable implication, from what appears on the face of the amendments, or from the transaction as it passed through the Patent Office."

These considerations show why it was that the able counsel for the defendant in the *Third Avenue case*, Messrs. Briesen and Knauth, especially experienced in Patent Office practice, *did not attempt*, in their defence of that case, to show that the *proceedings in the Patent Office* in relation to this patent *imposed any limitation* upon the scope of Claims 1 and 2 of the patent in suit. They effectually dispose of the present attempt to place a limitation on the broad claims by reason of anything found in the file wrapper.

The Conception of the Completed Invention was in May, 1889, prior to Manier and Peckham 419,876 Patents.

The Record contains affidavits on behalf of the petitioners which show that the patentee fully conceived and completed the invention of the patent in suit as early as May, 1889.

This was prior to the date of Manier, August 27, 1889, and to Peckham 419,876 (January 21, 1890). If this fact can be made to appear at final hearing, these two patents, of course, become irrelevant to the issue. The subject was not considered of importance by Judge Shipman, for the reason that he disposed of both of those patents upon other grounds.

Without elaborating the matter further, we submit that the affidavits of John A. Brill (p. 33) and George Martin Brill (p. 46) set out facts which bring the case fully within the rule of Loom Co. *vs.* Higgins, 105 U. S. 594, where it was said:

> "But Webster had invented it before that time, and had made a drawing of it which, in March, 1868, he exhibited and explained to Davis. An invention relating to machinery may be exhibited either *in a drawing* or in a model, so as to lay the foundation of a claim to priority, if it be sufficiently plain to enable those skilled in the art to understand it."

Certainly the petitioners are entitled to go to final hearing on this evidence.

We submit that on the whole case the Court below erred in reversing the decree of the Circuit Court and directing the cause to be remanded with instructions to dismiss the bill.

We further submit that for reasons hereinabove set forth the decree of the Court below should be reversed and the Record be remanded to the Circuit Court with instructions to reinstate the bill of complaint and the preliminary injunction hitherto ordered by the said Court, to vacate its suspending order and to proceed with the cause to final hearing.

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Of Counsel.

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Supreme Court of the United States

OCTOBER TERM, 1901

Office Supreme Court U. S.
FILED
MAR 14 1903
JAMES H. McKENNEY,
Clerk.

JOHN A. BRILL AND THE J. G. BRILL COMPANY
Petitioners

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY *et al.*
Respondents

SUPPLEMENTAL BRIEF FOR PETITIONERS

JOSEPH L. LEVY
FRANCIS RAWLE
For Petitioners

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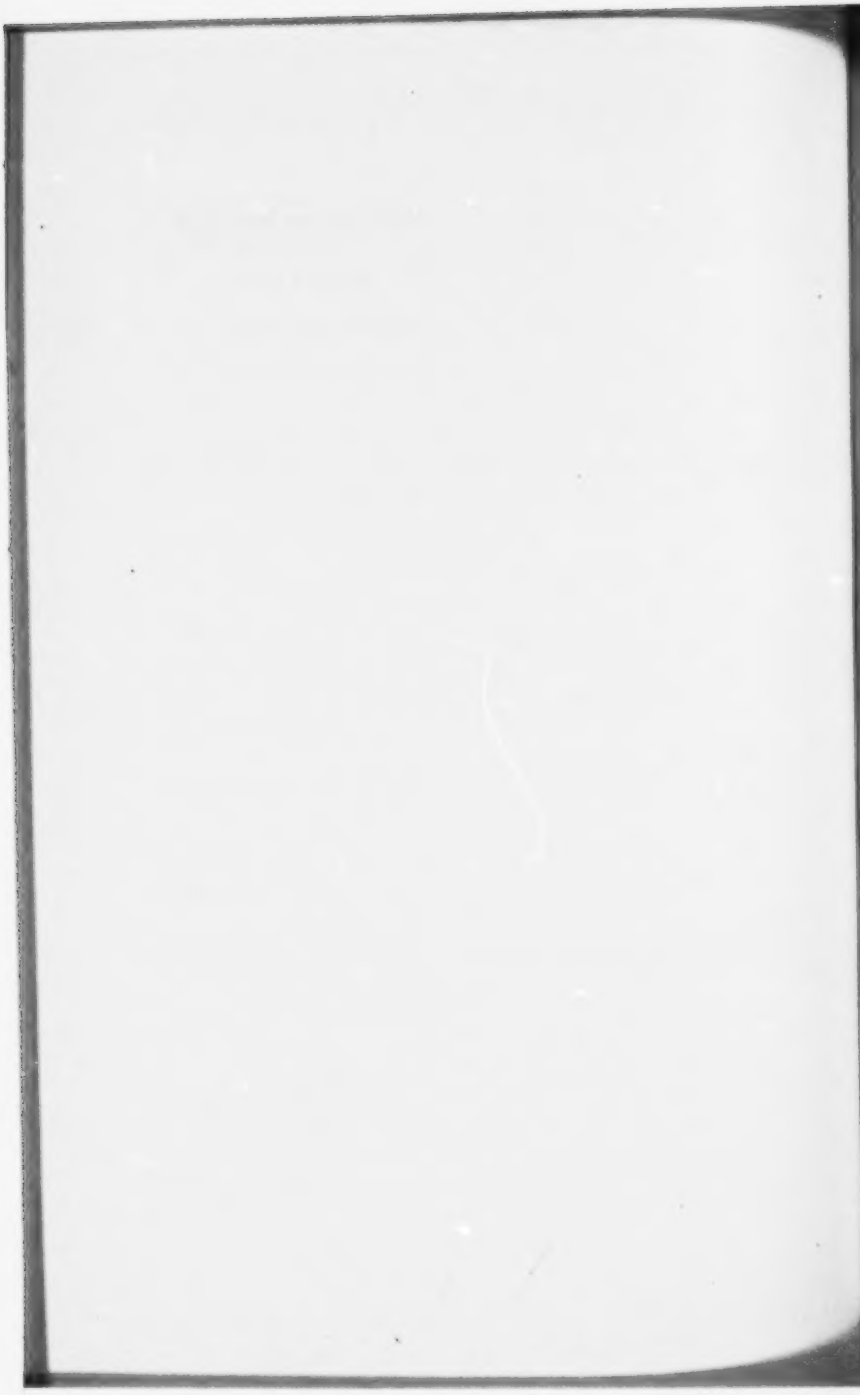

In the United States Supreme Court.

JOHN A. BRILL AND THE J. G. BRILL COMPANY,
Petitioners,
Against
THE PECKHAM MOTOR TRUCK & WHEEL CO., *et al.*,
Respondents.
In Equity.

SUPPLEMENTAL BRIEF FOR PETITIONERS.

The Supplemental Brief for respondents is more significant for what it omits to say than for what it says. And the same thing is true of the Brief filed before the argument.

MATTERS NOT TREATED IN RESPONDENTS' BRIEFS.

Neither Respondents' Brief nor their Supplemental Brief seriously touches upon the following vital arguments made on behalf of the Petitioners.

1. *As to whether the specification imposes any limitation upon the broad Claims 1 and 2.* This subject is treated in Petitioners' Brief at pages 46 and 97. Respondents' Brief refers to the language of the specification in this connection, but the Supplemental Brief does not attempt to meet the arguments presented by the Petitioners' Brief.

2. Neither Brief touches upon the Petitioners' argument based upon a comparison of two passages in the specification

in which the same operation of the truck is described, in one passage, by the use of the word *abnormally*, and in another passage, without that word, clearly showing that "*abnormally*" is not a word of definite significance in that connection.

3. Neither Brief touches on the Petitioners' argument (pp. 47, 98) that the existence of a broad group of claims and a limited group of claims is to be taken as a most persuasive consideration that the intent, to be gathered from the whole patent, is to cover the broad invention.

4. Neither Brief touches upon the Petitioners' argument (pp. 49, 99) in reference to the *drawings* of the patent as showing *simultaneous* compression of both sets of springs under the *car body weight alone.*

5. Neither Brief makes any reference to the argument in Petitioner's Brief (p. 56) to the effect that, even with a limitation placed upon Claims 1 and 2, the Respondents infringe (assuming the operation of their trucks to be as set forth in the opinion of the Court below).

6. Neither Brief *seriously considers* the Peckham patent 419,876 as imposing a limitation upon Claims 1 and 2. The original Brief barely touches the subject by quoting from the opinion of the Court below and quoting some inconclusive matter from one of their expert witnesses—nothing more. The Supplemental Brief adds no argument.

7. Neither Brief controverts the positions in regard to this Peckham patent taken in Respondents' Brief:

That it is a mere paper patent.

That its truck was never used and is incapable of use.

That its *frame* is not the frame of the patent in suit.

That its *spring system* is not the spring system of the patent in suit.

That it has been *rejected* at every stage in the history of this litigation, beginning at the Patent Office (excepting, of course, by the Court below).

That it is entirely out of touch with the entire development of the electric railway truck art.

8. Neither Brief attempts to sustain the opinion of the Court below in holding that it was not necessary for Judge Shipman, in the Third Avenue case, "to define accurately" Claims 1 and 2 (see Petitioners' Brief, p. 129).

The last three considerations are very important. The Respondents' Counsel asks this Court to sustain the rulings of the Court below, and yet fails almost completely to present any supporting argument on their behalf. The Court below, in reaching its conclusions, first considered that Judge Shipman's definition of Claims 1 and 2 was not a necessary part of his decision, and therefore need not be followed. We believe that we have shown in our Brief (p. 129) that in this respect the Court below was in error. Respondents, by their failure to meet our showing, would seem to yield the point.

The Court below having thus disposed of Judge Shipman's ruling, took up the Peckham patent 419,876, which Judge Shipman had held to be irrelevant to the case, and, setting aside Judge Shipman's finding, proceeded to hold that it imposed a limitation upon the broad Claims 1 and 2. Here again Petitioners' counsel, in their Brief, adduced what they consider persuasive reasons for a different view of this Peckham patent, and these arguments are not met by either of the Respondents' Briefs.

The Court below further proceeded to find that the language of the specification likewise imposed a limitation upon the broad claims 1 and 2, and here also Respondents' Brief substantially fails to support of the view of the Court below or to meet what we believe is a controlling argument on behalf of the Petitioners.

In fact Respondents' counsel seem to find themselves in the unfortunate, though not uncommon position, of having had the Court below base its decision in their favor upon reasons which they apparently believe to be untenable, while paying no regard to the reasons which both they and their predecessor in the Court below, Mr. Wells, considered as the only possible ground of defense upon which they could hope to prevail, viz., the employment of their underlying tension spring as their only means of lessening oscillation.

9. The Respondents' theories, upon which they depend as showing that their trucks do not infringe, are considered in Petitioners' Brief (pp. 109–124) and are, we believe, there shown to be untenable. No part of this argument is met or touched on in either of Respondents' Briefs.

In this connection we call attention to certain matters in the description of the Respondents' trucks at page 12 of Respondents' original Brief. Respondents' springs are there described as if they were held between the jaws of a vise, and the inference is drawn that therefore there is *simultaneous* compression of both sets of springs *at all times*. But counsel for Respondents overlook the fact that *when the parts were assembled* (that is, when the car body was first lowered upon the springs), one set of springs came under compression before the other set, and it was *only when the weight of the car body is on the truck* that there is this simultaneous compression. We show in our Brief (pp. 43, 44, 45, 99) that this is precisely the method of *use* of the truck of the patent in suit; that is, that there is a simultaneous compression of both sets of springs under the car body weight alone. A truck, like every other machine, ought to be considered *when in use*—doing its work; not as an abstract structure standing by itself, but a truck with a car body on it, and in operation. In this condition and from this point of view, *both structures* have *simultaneous* compression of both sets of springs. The

difference between the two structures is that in the Respondents' truck the elliptic spring is tied at the top, while in the truck of the patent in suit it has a loose contact with the upper chord.

It will be remembered that the Court below found that in Respondents' trucks "both sets of springs are brought into action and begin to compress simultaneously *when the weight upon them is greater than the weight of the car.*" (Petitioners' Brief, p. 44.)

10. Neither of the Respondents' Briefs attempts to meet the Petitioners' argument at p. 88 of their Brief, that the fact that the truck of the patent in suit had been universally adopted is, under the authorities, entitled to weight, and is sufficient to resolve any doubt as to patentable novelty, in favor of the patentee. (The Respondents seem to deny that the truck of the patent *has* taken the market. If so, this is an excellent reason for sending the case to a final hearing on this question of fact.)

We come now to consider certain matters treated by the Respondents' Briefs.

As to the Doctrine of Comity and Its Application.

While one of the main questions in the case necessarily involved this rule and the propriety of its application to the case at bar, the original Brief makes no reference to this subject.

The Supplemental Brief touches upon it, but in such a way, we submit, as to strengthen the petitioners' argument. (See Petitioners' Brief, pp. 21-30.) Petitioners' counsel at the argument did not contend (and in view of the language of this Court in *Mast, Foos & Co.* vs. *Stover Manfg. Co.* could not have contended) that comity is a rule of obligation, but that it is a rule that should be applied in a proper case and that the case at bar was eminently such a case, and it was pointed out

that the prior adjudication was in the same Court and made upon final hearing upon pleadings and proofs after a protracted litigation. This Court said in the Mast-Foos case: "So, too, if a prior adjudication has followed a final hearing upon pleadings and proofs, especially after a protracted litigation, greater weight should be given to it than if it were made after a preliminary injunction."

Cases are cited in the Petitioners' Brief (pp. 23-29) to the effect that a prior adjudication should be followed on a motion for a preliminary injunction,

> "Except upon a *clear showing* that the decision invoked in its favor *was wrong.*" (*Electric Mfg. Co.* vs. *Edison Electric Light Co.*, 61 Fed. Rep. 834.)

> "Unless it *clearly appears* that the Court below has *fallen into a misapprehension* respecting the facts or law of the case in a *matter vital to the issue.*" (*Loew Filter Co.* vs. *German-American Filter Co.*, 107 Fed. Rep. 949.)

> "Unless it appears, after a consideration of all the evidence upon which his action was based, that *his legal discretion* to grant or withhold the order was *improvidently exercised.*" (*So. Pacific Co.* vs. *Earle*, 82 Fed. Rep. 690.)

> "In the absence of some *controlling reason* for disregarding it." (*Consolidated Fastener Co.* vs. *Littauer*, 84 Fed. Rep. 164.)

> Except "in a case of *clear mistake of law or fact*, of newly discovered testimony, or upon some question not considered by the Court." (*Heaton-Peninsular Co.* vs. *Elliott Co.*, 58 Fed. Rep. 220.)

The cases cited in the Supplemental Brief all belong to the class of *exceptional cases* in which, for "*controlling reasons*," the Circuit Courts of Appeals have deemed it their duty to re-examine the prior adjudications. We will briefly take them up in order:

Thus, in *Curtis* vs. *Overman Wheel Co.*, 58 Fed. Rep. 784, Shipman. J., followed that course upon the ground that "the vital question in this case is presented with approximate accuracy upon the face of the patent, and does not depend upon controverted questions of fact."

In *Thomson-Houston Electric Co.* vs. *Hoosick Ry. Co.*, 82 Fed. Rep. 461, the Circuit Court of Appeals for the Second Circuit re-examined the former adjudication because "the question of whether two patents are for the same invention is a question which is to be determined by a comparison of the documents themselves. There may be cases in which it is necessary to resort to extrinsic evidence to ascertain the meaning and the true construction of the documents. The present was not such a case." The question there was as to whether Van de Poele's earlier patent was for the same invention as his patent in suit.

Thomson-Houston Electric Co. vs. *Union Railway Co.*, 86 Fed. Rep. 636, was a suit upon the same patent as was involved in the last mentioned case, and raised the same question.

Sprague Electric Ry. Co. vs. *Nassau Electric Ry. Co.*, 95 Fed. Rep. 821. Here the Court of Appeals reversed the order for a preliminary injunction granted on the prior adjudication upon the ground that the theory of infringement depended upon the determination of two questions; that the first of these questions had "*not been touched upon by any of the previous adjudications* upon the patent"; and that the

second of them involved a doubtful question of fact. Further, "that the questions thus suggested are too doubtful to be resolved upon a motion for a preliminary injunction and should be reserved until the final hearing of the cause."

In *American Graphophone Co.* vs. *National Gramophone Co.*, 92 Fed. Rep. 364, the Court did not review the prior adjudication, but examined it in order to "*ascertain the scope of the decision.*" The Court considered that the injunction below had been granted on a *misunderstanding of the scope of that decision* and the order for an injunction was reversed.

In *Whippany Mfg. Co.* vs. *United Indurated Fibre Co.*, 87 Fed. Rep. 215, there was not only much conflict as to the facts, but further than that, the Court said:

> "The complainant's patent was sustained by the Circuit Court of New Jersey in a suit against the New York Wood Fibre Company; but it does not appear that the construction there given it was *such as is now claimed* and broad enough to cover the respondents' process, and thus subject them to the charge of infringement."

In *Horn & Brannen Mfg. Co.* vs. *Pelzer*, 91 Fed. Rep. 665, Acheson, C. J., in delivering the opinion of the Court, referred to the "great importance" of the rule of comity, but said:

> "In the present case, however, the *circumstances are so unusual* that we are *constrained* to make an independent investigation, etc."

It appeared there that the defendant's device was manufactured under a patent antedating complainant's re-issued patent which it was alleged to infringe, and that twelve years had elapsed between the date of the original patent, which had been held void, and the application for the re-issue of that

same patent. The Court proceeded to hold the re-issued patent void by reason of the delay in applying for it.

Seiler vs. *Fuller & Johnson Mfg. Co.*, 102 Fed. Rep., 344, was a case of a *restraining order* made *pending a motion* for a preliminary injunction. The Court of Appeals, in vacating the restraining order, said:

> "The fact of infringement, however, did not sufficiently appear to warrant an injunction. It was alleged in the bill in general terms, and flatly denied by the answer. *No proofs were presented of the character or construction* of the *infringing machine*, or in what respect, if at all, it did infringe. . . . We therefore think the court below, in granting the temporary restraining order, exceeded a just discretion in restraining the defendants before it had passed upon the question whether there was in fact infringement."

Even under these circumstances, the Court said:

> "It is a *delicate matter* to interfere with the discretion exercised by the court below in a matter of this kind."

We have never denied the *right* of the Circuit Court of Appeals to examine the whole case before it, and to re-examine the prior adjudication. The cases cited by respondent's counsel, when analyzed, are shown to support rather than weaken the rules for which we contend, viz.:

1. The prior adjudication should be followed in the absence of some controlling reason for disregarding it.

2. That the prior adjudication is entitled to the same weight in the Circuit Court of Appeals which it had in the Circuit Court.

3. That on appeal from an order granting preliminary injunction the Circuit Court of Appeals will consider only

whether the lower court exercised reasonable discretion in granting a preliminary injunction.

We may add that respondents' counsel, in their argument at bar, made slight or no reference to the comity rule, or to any of the authorities cited in the petitioners' brief in favor of its application to the case at bar.

As to whether the Court below was Justified under the Mast-Foos Case in Dismissing the Bill.

Respondents' counsel devoted but little, if any, of their attention in the argument at bar to this branch of the case. The following position and argument from their original Brief would seem, in effect, to admit the point that we contend for, viz.: that the Petitioners are entitled to have their bill reinstated and to go to final hearing. They are as follows:

As we have stated in our Brief and at the argument, the Respondents' defence has been based chiefly, if not almost entirely, both in the court below and in this court, upon their contention that they do not use the elliptical springs of the patent at suit for the purposes of lessening oscillation, but that they reach that result in their trucks by the use of their underlying *tension spring*, and that they use elliptical springs merely for bracing the car-body—with the added thought, upon which they also strongly insist, that their elliptical springs are tied to the upper chord, or car-body.

These theories are largely developed in the Respondents' Brief used at the hearing, occupying therein much more space than any other part of the argument. After describing their trucks, and what they claim to be their method of operation, and after stating that elliptical springs were adopted by Peckham for the purpose of preventing the swaying of the car-body " and for this purpose alone " (Respondents' Brief, p. 18), the Brief proceeds to consider certain *experiments* performed in this connection by the Respondents and their experts after the filing of the bill in this case and before the

motion for the preliminary injunction was heard—a period of about eleven days.

The Brief states in regard to this as follows (p. 18):

> "The practical experimental demonstrations, immediately hereinafter described, show beyond question that the introduction of the elliptical springs into the Peckham trucks is a positive detriment; the amount of galloping being the same, while the motion is much easier on both passengers and car when all spiral springs, without any elliptic, are used."

Under this head the Respondents' Brief then proceeds to describe the result of their experiments, and sums up these results as follows (p. 23):

> "These experiments *would seem to demonstrate conclusively* that Peckham's elliptic springs do not perform the function claimed for the elliptic springs in the patent in suit. Indeed, as far as galloping goes, their introduction into the Peckham truck is demonstrated to be a positive disadvantage, and the only reason for their continued use all these years is that stated by the Respondents; *i. e.*, to prevent the latteral swaying of the car body."

Again at page 25 of the same Brief it is stated, referring to the Circuit Court of Appeals:

> "In comparing Respondents' trucks with the claims as construed, it had, on the one hand, the sworn statement of Mr. Livermore that the elliptical springs of defendants' trucks were slower in action than the spiral springs. *Against this it had the sworn statements* of Messrs. Peckham, Newbury, Fowler and Abbott that both sets of springs were brought into action and began to compress simultaneously. *The latter statements were based upon a series of carefully authenticated tests.*"

It will be observed that these "carefully authenticated tests" were made by the Respondents in private, and that their alleged results were brought into the case by *ex parte* affidavits, which the complainants' counsel were not permitted even to inspect until the argument of the motion for preliminary injunction had actually been begun, and to which, of course, they were not permitted to reply. In fact, all that complainants' counsel could learn at the argument in the Circuit Court as to these affidavits, which cover about 52 pages of the printed Transcript of Record, was what they could run through (in typewritten shape) in the half hour of argument occupied by complainants' counsel in opening the case and defendants' counsel in replying, leaving about ten minutes for the closing argument of complainants' counsel on about 75 pages of typewritten matter which had been handed to him half an hour before.

The Respondent's Brief continues:

> "The Petitioners tendered this issue to Respondents' (p. 23) . . . (p. 24) and Respondents accepted the test, and their proofs (heretofore referred to) to sustain their contention that both sets of springs are brought into action and compressed simultaneously, were so *overwhelming* that the Court found, etc."

Thus the entire question of the construction and mode of operation of Respondents' trucks and the finding of the Court on that main issue of the case were based upon "overwhelming" evidence, taken *ex parte* and never seen by the Petitioners' counsel till the argument in the Circuit Court had begun.

Surely, nothing further is needed to show that the Petitioners are entitled to go to final hearing, so that they may test the value of this evidence by the cross-examination of the witnesses called to substantiate it.

And there even seems to be a difference between the infer-

ences drawn from these "overwhelming" proofs by the Court below in its opinion and in the Brief for Respondents. The former holds that "in the car trucks of the defendant, both sets of springs are brought into action and begin to compress *simultaneously when the weight upon them is greater than the normal weight of the car*," while the result of the same experiments is set forth on page 25 of Respondents' Brief in these words:

> "Against this it had the sworn statements of Messrs. Peckham, Newbury, Fowler and Abbott, that both sets of springs were *brought into action and began to compress simultaneously*."

The difference is important. Which view is the correct one? We submit that nothing but a final hearing can answer the question.

These considerations, we urge, conclusively demonstrate that the Court below committed a grave error in dismissing the bill.

Respondents' Brief, at page 27, considers the different reasons urged by Petitioners as to why the bill of complaint should not be dismissed. We are told that our claim to produce evidence as to the actual operation of Respondents' devices, as compared with the devices of the patent in suit, is a mere prayer to have the case reopened because our proofs were insufficient to prove our case. But the "case" was a motion for preliminary injunction, and the evidence we claim the right to produce is evidence to be used at final hearing on the merits.

We are told that if we wish to adduce testimony as to the defendants' devices we should be relegated to a new suit, but we fear that a more serious defense would then be interposed if this decree be allowed to stand and another suit is begun on the same right of action.

Again, we are told (p. 28) that we "could not controvert Respondents' affidavits." But, obviously, the question is not whether we can controvert these affidavits, but whether we are not entitled to an *opportunity to do so.*

With reference to Petitioners' claim that they are entitled to adduce proofs as to how the Peckham patent 419,876 would operate, the Respondents' counsel argues that such evidence would be "immaterial as to any possible issue in this suit," also, "it is entirely immaterial whether or not the particular Peckham patent is or is not capable of practical use."

We reply to this that patent law deals with practical questions, and certainly the question as to whether an alleged prior art patent is a practical device and taught anything to the art, and whether or not it was capable of use, must certainly always be immaterial in the consideration of its bearing upon a patent of later date.

The Petitioners claim the right to produce evidence that the conception of the invention of the patent in suit antedates the only two alleged prior art patents, Manier and Peckham.

Considering this contention, the Respondents' Brief makes a very vital admission. It fully admits the date of the conception of the invention of the patent in suit as of May, 1889, that is, prior to both Manier and Peckham dates. It, however, argues that Mr. Brill was not diligent in reducing his invention to practice, and while he delayed, both Manier and Peckham made their inventions and received patents therefor. The reply is obvious. Admit that Mr. Brill was first in the field, the law allows him to explain the reason for his delay. Mere lapse of time would deprive him of no right; only unnecessary and unexplained delays would have that effect. If he were sick or too poor to experiment, or if nobody would buy his invention or try it (and it could only be tried on an actual railway)—these and many other reasons would leave his rights unimpaired. Clearly we are entitled to adduce evidence to show why he delayed, if there was, in fact, any delay.

But more than this, the "race of diligence" in such a case is only between inventors of the same device. It is not be-

tween an invention and a prior art patent set up merely to show that some feature or other of the invention was lacking in novelty. There could be no race of diligence in this sense between the patent in suit and either Manier or Peckham.

For the sake of brevity, other considerations in Respondents' Brief as to the Petitioners' reasons for claiming a right to go to final hearing must be passed over. The arguments advanced really require no consideration. One of them is as follows: "To quiet litigation, this Court should frown upon the attempt to harrass and annoy the Respondents in the manner shown by this proceeding."

The Respondents Suggestion that the Third Avenue Case before Judge Shipman was a Friendly Suit, etc.

This is a new contention in the case and *is absolutely without foundation, in fact. No such question* was raised at any stage in the Court below, or in the Respondents' Brief on the petition for the writ of *Certiorari;* nor even in the Respondents' Brief, filed before the argument. The owner of the patent in suit, desiring to reach the Bemis Car Box Company, a competitor in business who was infringing the patent here in suit, brought suit in the Southern District of New York against a *user* of Bemis trucks, instead of against the Bemis Car Box Company in the District of Massachusetts, in which their works were situated. The Bemis Company who built the Third Avenue trucks retained Messrs. Briesen & Knauth, well-known patent lawyers, to defend the case. The Defendant's Record in the Third Avenue Case (a copy of which is now before this Court) contains, at page 77, the following statement by counsel:

> "Defendant's counsel, in order to prevent further delay, admits that the Bemis Car Box Company of Springfield,

Massachusetts, is defending the present suit for the Third Avenue Railway Company."

The same Record shows that Mr. v. Briesen signed the defendant's answer as counsel. The Record shows that either he or some one associated with him, attended all the meetings and examined and cross-examined the witnesses, and Mr. v. Briesen argued the case before Judge Shipman.

Judge Shipman, in his opinion (Transcript of Record, p. 140) says: "One hundred and eighty-one infringing trucks were purchased by the defendant from the Bemis Car Box Company, of Springfield, Massachusetts, which, it is admitted, 'is defending the present suit for the Third Avenue Railroad Company.'"

The Supplemental Brief states that the Bemis Company sought to intervene in the cause, but that their petition was opposed by counsel for complainant (the present petitioners) and was denied.

This is incorrect. The writer was counsel in that case and submitted the matter to such order as the Court might make, being only unwilling to have an intervention order made by stipulation. Whether there was a technical *intervention* or not was entirely immaterial, for the Bemis Company had, at every stage of the cause, *full and absolute contact of the entire proceedings*. The statement in the Supplemental Brief at p. 4, that "the maker of the trucks did not have full control" of the defense, *is not true*.

The next statement in this connection made in Respondents' Supplemental Brief (top of page 5) to the effect that the defendant's superintendent, Robertson, was called by the plaintiff, but opportunity for defendants' counsel to cross-examine him was not granted (p. 5) is likewise untrue, as will appear from the Third Avenue Record. It shows that while he was on the stand and after the taking of testimony had been twice adjourned on account of the absence of Mr. v. Briesen, complainant's counsel merely insisted that Mr. v. Briesen's associate in the case, who had been actively en-

gaged with his senior, Mr. von Briesen, in the conduct of the case, should proceed with the cross-examination of the witness, which he thereupon did.

The situation is perfectly simple. The Third Avenue Company were customers of the Brill Company, as well as of the Bemis Company, being one of the largest railways in the country, and it would have been poor policy for the Brill Company to antagonize them further than was necessary. They understood that the suit was in effect, against the Bemis Company, and such it became and was to the end. This is all that could have been meant by the statement from the Defendant's Record in that case set forth on page 4 of the Supplemental Brief, to the effect that counsel for the Brill Company "had received permission to bring such a suit" against the Third Avenue Railway Company.

It was a matter of no importance as to whether such employees of the Third Avenue Railway Company as were called as witnesses appeared with or without subpœnas. As a matter of fact, two were subpœnaed and one came without a subpœna.

Again, *it is not true* that "while the testimony was being taken its interest [that of the Bemis Car Box Company] ceased by the fact that the trucks complained of were discarded by the Third Avenue Railroad Company" (Suppl. Brief, p. 4). It is enough to say that after that fact appeared on the Record of the Third Avenue Case, Messrs. Briesen & Knauth attended the examination of the eight more witnesses in Philadelphia, whose testimony covered some fifty printed pages of the Record, and the same experienced counsel spent a day in arguing the case before Judge Shipman upon an elaborate and full brief covering about sixty pages.

It is stated in the Supplemental Brief that "no appeal was taken, and so far as the record discloses, no attempt was ever made to utilize this adjudication against the Bemis Company." It is hardly ground for disregarding the final adjudication of Judge Shipman that no appeal was taken, rather the con-

trary. And it is not understood how the Record could show that his adjudication was or was not utilized further against the Bemis Company.

But after all, the enormous Record in the Third Avenue Case, which is now a part of the Transcript of Record in the case at bar, is the best reply to this novel and baseless contention of the counsel for the Respondents. The Third Avenue case was *not* a friendly suit, but was a real litigation—contested at every stage on behalf of the builders of the infringing trucks, as to whom it was well understood to be a test case reaching far beyond the few trucks in controversy in that case. Judge Wallace, in the opinion of the Court below (Record, p. 150), says that "in that action the claims . . . and the question of their validity as well as their infringment was *strenuously contested*."

The Petitioners were not permitted in the Circuit Court to file rebutting affidavits.

Respondents' counsel are mistaken in their Brief, at pages 28, 33, as to filing rebutting affidavits. The facts are not on the Record and will therefore have to be stated by the writer who was present in Court; the present counsel for Respondents was not then acting in the case. The facts are these: The motion for a preliminary injunction, on four days' notice, came up on a Friday list before Judge Lacombe. The Defendants' counsel applied for one week's continuance. This was granted. The Complainant's counsel thereupon asked the Court to direct that the Defendants' affidavits be served not later than the second day before the hearing of the motion. Judge Lacombe declined to make such an order, and directed that they be served when the case was called for hearing. They were, in fact, exhibited to Complainants' counsel after the argument on the motion for a preliminary injunction had begun.

Respondents' Contention that the Petitioners were guilty of Laches.

The argument in the Supplemental Brief (p. 5) that the Petitioners were guilty of *laches* is entirely *new in the case.* The Transcript of Record, pages 59, 60 and 61, shows that the Respondents were notified in 1897 that they would be held responsible for the infringement of the patent in suit, and that a test case would be instituted for that purpose. The test case against the Third Avenue Railroad Company was thereupon brought and pushed to a final hearing and these proceedings followed immediately upon the final decree in that case. Respondents, as shown in the affidavit of Hensley (Transcript of Record, p. 59) took the position that the patent was invalid, and their acts have therefore been deliberate. They simply *chose* to infringe and stand the consequences. So far as future consequences which would follow on an injunction are concerned, they can avoid them by dispensing with the elliptical spring, which they say at page 23 of their Brief "is demonstrated to be a positive disadvantage; and the only beneficial function they can perform—the only reason for their continued use all these years' is that stated by the Respondents; *i. e.*, to prevent the lateral swaying of the car body."

In *McLean* vs. *Fleming*, 96 U. S. 345, a trade-mark case, this Court said:

> "Equity courts will not in general refuse an injunction on account of delay in seeking relief, when the proof of infringement is clear, even when the delay is such as to preclude the party from any right to business profits."

New York Filter Co. vs. *Jackson*, 19 Fed. Rep. 422.

Where the defendant was notified by the complainant that complainant owned a monopoly, etc., a delay of five years in beginning suit for infringement, during which time the com-

plainant was engaged in litigation with other infringers, was not such laches as will bar relief by preliminary injunction.

Green vs. *Barney*, 19 Fed. Rep. 420:

> "When the validity of a patent is in litigation, the patentee may, without being guilty of laches, wait until a decision is rendered before bringing suit against other infringers."

To the same effect, *North* vs. *Eagle Automatic Can Co.*, 57 Fed. Rep. 929.

As to the reference in the Supplemental Brief, page 7, to "Lord Baltimore" trucks in use in Washington. They are trucks under short car bodies, whereas the present controversy relates to pivotal trucks under long car bodies. The use of these "Lord Baltimore" trucks does not, therefore, qualify the statement that the truck of the patent in suit has been universally accepted under long cars.

We submit that nothing in the argument at bar, or in either of the Briefs, affects in any way the force of the arguments on behalf of the Petitioners.

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JAMES H. MCKENNEY

Brief of Wells for Respondents.
Filed Oct. 31, 1901.

Supreme Court of the United States.

OCTOBER TERM, 1901.

No. 444

JOHN A. BRILL and the J. G. BRILL COMPANY,
Complainants and Petitioners,

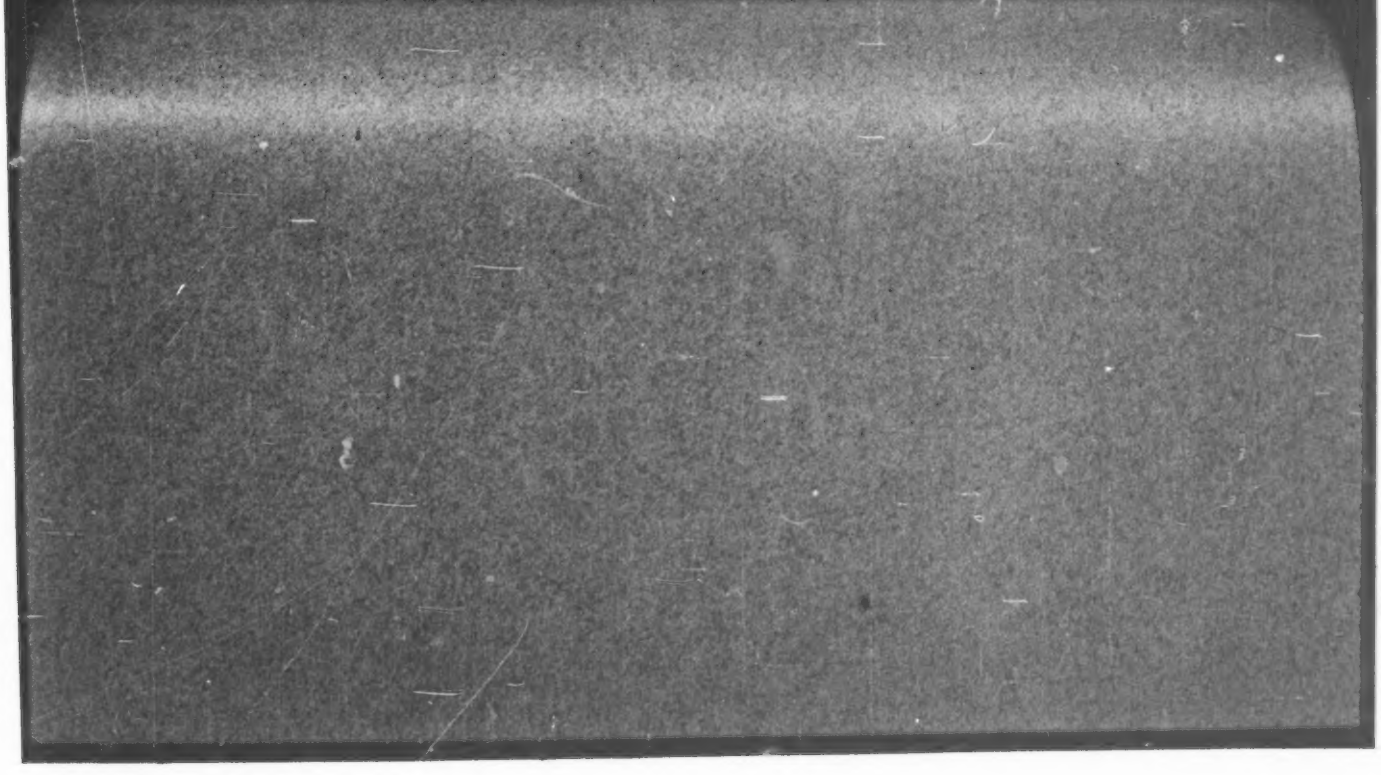
vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, *et al.*,
Defendants and Respondents.

On Writ of Certiorari to the United States Circuit Court of Appeals for the Second Circuit.

BRIEF FOR RESPONDENTS.

HENRY P. WELLS,
Counsel for Respondents.



Supreme Court of the United States.

OCTOBER TERM, 1901.

JOHN A. BRILL and the J. G. BRILL COMPANY, Complainants and Petitioners, *against* THE PECKHAM MOTOR TRUCK & WHEEL COMPANY, EDGAR PECKHAM, W. G. PRICE, ERWIN G. LONG and THEODORE SPORE, Defendants and Respondents.	**In Equity. (Patent Suit.)**

Respondents' Reply to Complainants' Brief and Petition for Certiorari.

By far the greater part of the Petitioners' Petition and Brief relate to matters which the decision of the Circuit Court of Appeals for the Second Circuit shows were not considered by said Appellate Court, and had no influence upon its decision.

But two points are material to the question whether this petition shall be granted or denied.

First.—Is this case one in which, under the settled practice of this Court, it will intervene by the writ of certiorari?

If it is not, that of course ends the matter. If it is, then the following point alone comes up for consideration:

Second.—Did the reasons assigned by the said Circuit Court of Appeals justify it in dismissing the Bill of Complaint?

FIRST.

IS THIS CASE ONE IN WHICH, UNDER THE SETTLED PRACTICE OF THIS COURT, IT WILL INTERVENE BY THE WRIT OF CERTIORARI?

The Rule, as laid down in American Construction Co. *vs.* Jacksonville T. & K. W. R. Co., 148 U. S., 372-378, is as follows:

> "In any such case as is hereinbefore made "final in the circuit court of appeals, it shall "be competent for the Supreme Court to re- "quire, by certiorari or otherwise, any such "case to be certified to the Supreme Court for "its review and determination, with the same "power and authority in the case as if it had "been carried by appeal or writ of error to the "Supreme Court, has been held to be a branch "of its jurisdiction which should be exercised "sparingly and with great caution, and only "in cases of peculiar gravity and general im- "portance. *Re* Lau Ow Bew, 141 U. S., 583 "and 144 U. S. 47; *Re* Woods, 143 U. S. 202."

In Forsythe *v.* Hammond, 166 U. S., 506-520, this Court reaffirmed this Rule, saying:

> "It is a power which will be sparingly exer- "cised, and only when the circumstances of "the case satisfy us that the importance of "the question involved, the necessity of avoid- "ing conflict between two or more circuit "courts of appeal, or between courts of ap- "peal and the courts of a state, or some matter "affecting the interests of this nation in its in- "ternal or external relations, demands such "exercise."

See also Castner *v.* Coffman, 178 U. S., 168-184.

This is believed still to be the Rule of this Court.

Does this case fall within the confines of this Rule? It does not. It is but a plain patent suit in Equity in which the Petitioners sued the Respondents for infringement of a patent for a street car truck, and no question of law was involved not theretofore settled by this Court.

SECOND.

DID THE REASONS ASSIGNED BY THE CIRCUIT COURT OF APPEALS JUSTIFY IT IN DISMISSING THE PETITIONERS' BILL OF COMPLAINT?

That Court said to the Petitioners in effect: We have compared your patent as it stands with the Defendants' alleged infringing device as you yourselves describe it, and we find it impossible on the face of your patent to bring the Defendants' device within its scope. You cannot, therefore, ultimately prevail, and consequently we dismiss your Bill of Complaint under the authority of Mast, Foos & Co. *v.* Stover, 177 U. S. 485.

The decision in the case at Bar is reported in 108 F. R. p. 267. The following extracts define the Court's position. The opinion was written by Judge WALLACE.

> "If the first and second claims of the patent
> "in suit (letters patent to George M. Brill,
> "No. 478,218, dated July 1, 1892) require a
> "construction limiting the combination
> "therein specified to one in which the spiral
> "springs and elliptical springs are so arranged
> "that the latter are not brought into action
> "until after the former have begun to com-
> "press, the car trucks of the defendant do
> "not infringe the claims. In the car trucks
> "of the defendant both sets of springs are
> "brought into action, and begin to compress
> "simultaneously when the weight upon them

"is greater than the normal weight of the car.
" * * *

"If the patentee had attempted to do so, it
" would have been difficult to frame a specifi-
" cation which more industriously sets forth
" as essential to his invention such a construc-
" tion and arrangement of the spring devices
" that the elliptic springs will not be brought
" into play until the spiral springs have been
" compressed by the weight of the car body
" and added load, 'until the weight of the load
" 'on the axle-box springs begins to depress
" 'said springs abnormally.' This character-
" istic of the invention must be imported into
" the claims, and would have to be if the
" qualifying term, 'substantially as de-
" 'scribed,' had not been incorporated into
" them. * * *

"The case is one in which it is apparent that
" the complainant cannot ultimately prevail,
" and following the practice sanctioned by Mast,
" Foos & Co. *v.* Stover Mfg. Co., 177 U. S.
" 485, 20 Sup. Ct. 708, 44 L. Ed. 856, one in
" which the bill should be dismissed."

SOME ERRORS OF FACT IN THE PETITIONERS' PAPERS.

First.—The Petitioners state in Italics on page 2 of their Petition,

"The Complainants *were not permitted, un-*
" *der the rules of practice of the said Court,*
" *to file counter affidavits relating to new mat-*
" *ter set up in defendants' affidavits.*"

This statement is repeated on pages 16 and 20 of the Petition, and on pages 2, 9 and 18 of the accompanying brief.

This is a mistake. There is no such rule of practice in the Second Circuit. The Rule is as follows:

"Rule 107. Suppletory, or supporting, "proofs may, at the discretion of the Court, "or judge, be offered by the complainant, to "rebut the cause as shown by the defendant; "but the reception of such additional proofs "is not to permit the introduction of further "proofs in opposition thereto, by the defend- "ant, previous to the final hearing upon the "merits."

Second.—On page 16 of the Petition and elsewhere it is stated that the Appellate Court

"struck down this important and valuable "patent."

This brief statement contains two errors. The Court "struck down" nothing except the Complainants' unwarranted pretensions. It did not pass upon the validity of the patent, nor has it at any time been argued that the patent is invalid.

The patent is neither "important" nor "valuable". The depositions showed that the Complainants had abandoned making the car truck shown and described in the Patent, for over three years before suit.

The allegation that the trucks of the Patent superseded all others and came into general favor, so often repeated in the Petition and Brief, is the product of a lively imagination based on the unwarranted assumption that all trucks designed to prevent galloping, no matter by whom made nor how, were covered by the Patent in Suit, notwithstanding that trucks constructed to prevent galloping were patented before complainants' application and invention dates. Trucks of all makes were taken in, including those of the Defendants, of which Petitioners' papers admit that over 10,000 were in use when suit was begun. The depositions showed that four out of every five cars in use on Broadway, New York, were on the Defendants' trucks, and the same was true on many other street car roads. The master mechanic of the Third

Avenue Street Railway in New York City deposed that he had used on that road the trucks of Complainant and Defendant in direct and simultaneous competition; that he had trouble with the Complainants' trucks, and none with the Defendants; and that when the road was changed from cable to electricity the Complainants' trucks were thrown into the scrap heap, while Defendants' trucks were equipped with electric motors and continued in use.

The Complainants' contention that the Patent in Suit conferred a great boon on the general public, and that they are being deprived by the Second Circuit Court of Appeals of their due reward, has no foundation in fact. They are entitled to no sympathy on this score.

No parole testimony can overthrow the Decision of the Court that the Complainants cannot ultimately prevail, based, as it is, on the limitations of the Patent and its File Wrapper, and the obvious radical differences in construction and mode of operation shown by the drawings and models of Defendants' Structure.

One insuperable fact confronts the Complainants, and it is fatal to any argument addressed to the reversal of the Decision of the Appellate Court dismissing the Bill.

This insuperable obstacle is the specific and oft-repeated description of the construction and mode of operation of Complainants' device in the specification of the Patent, and irrevocably affirmed by the construction the Patentee himself placed upon his invention in the Patent Office to differentiate it from references cited in rejection.

The specification calls for the combination in a car truck of spiral springs placed near the axle-boxes, and elliptic springs placed between the extended ends of the truck frame, so combined that with an ordinary load on the car the whole weight is borne upon the spiral springs alone; and not until the load upon the car is "abnormal" do the elliptic springs come into action at all.

The specification also calls for elliptic springs rigidly fastened below to the truck frame, but above not even in contact with the car body under the normal conditions of use.

The only provision to overcome "galloping," aside from the mythical alleged breaking up of the rythm of the spring system, is cushioning the descending end of the car body upon the elliptic springs at the descending end, the rising end of the car body being left unrestrained to move as it will.

In the language of the Decision of the Appellate Court,

> "If the patentee had attempted to do so it "would have been difficult to frame a specifi- "cation which more industriously sets forth as "essential to his invention such a construction "and arrangement of the spring devices that "the elliptic springs will not be brought into "play until the spiral springs have been com- "pressed by the weight of the car body and "the added load, 'until the weight of the "'load on the axle-box springs begins to "'depress said springs abnormally.' This "characteristic of the invention must be "imported into the claims, and would have to "be if the qualifying terms 'substantially as "'described' had not been incorporated into "them."

The Defendants' structure was before the Court, both in drawings and models. These drawings were put in by the Complainants as proof of Defendants' structure. The Court saw that the mod-

els strictly conformed to these drawings. Both drawings and models when compared with the Patent-in-Suit, showed beyond possibility of doubt that Defendants' structures differed radically both in construction and in mode of operation from that of the Patent-in-Suit.

On the one hand stand the specification and drawings of the Patent itself.

On the other hand stand the Defendants' structures.

The Patent and these structures speak for themselves. They are themselves the very best evidence because they are the things themselves. No testimony of any number of witnesses, expert or otherwise, can vary or overcome what these exhibits conclusively demonstrate upon their face.

Unless the specification of the Patent be first rewritten, and the confirmatory construction repeatedly given his invention by the Patentee to avoid references cited against his application in the Patent Office, be first blotted out, by no possibility of extrinsic evidence, until this has been done, does any other conclusion seem possible than that arrived at in the Decision; to wit,

"*The case is one in which it is apparent that the complaint cannot ultimately prevail.*"

If this be so, would it not be a cruel injustice to subject these Defendants to the delay, the annoyance, and the heavy expense of a protracted patent litigation, in which one side or the other would surely appeal, when the ultimate result is a foregone conclusion?

Judge Shipman's Decision in the Third Avenue Case.

The reference to Judge Shipman's Decision in the Third Avenue Case, contained in Complain-

ants' Petition would seem to be wholly immaterial.

In the case before Judge Shipman the Defendant's truck was a *Chinese copy* of the Patent-in-Suit. If the Patent presented any element of validity, a clear case of infringement was presented. In the present suit Defendants' structure is radically different, both in construction and in mode of operation, from the Patent-in-Suit (see *post* page 14).

The questions here presented, therefore, necessitated an analysis of Complainants' specification, and a consideration of its specific limitations and its history in the Patent Office, wholly uncalled for in the Third Avenue case.

Rule of Comity.

On page 11 of Petitioners' Brief we find:

"II.—The Court below did not give 'sufficient "'weight' to the Rule of Comity, and therefore "the decree was reversible error.

> "The proper scope of the 'Rule of Comity' "and its application by Circuit Courts of Ap- "peal is stated in the opinion of this Court in "the Mast-Foos case. We submit that the "present case, as presented to the Circuit "Court of Appeals, was one in which the rule "was peculiarly applicable and should have "been applied, and that the refusal of the "Court below, under the circumstances, was "reversible error."

Respondents' counsel is at loss to understand how the petitioners can find any support for this proposition in the Mast-Foos case. The portion of that decision touching on this point would seem to be perfectly clear and explicit, and dead against the Petitioners.

It seems a singular proposition that, on the ground of comity, it is reversible error for a Cir-

cuit Court of Appeals to reverse one of its own Circuit Judges when the whole record is before it, as was the whole Third Avenue Record in the case at bar, it having been introduced by the Complainants.

THE DEFENDANT PECKHAM'S PATENT, 419,876.

As to the Defendant Peckham's Patent, 419,876, it is difficult to see how it could be interpreted otherwise than as in the Decision of the Court.

The elaborate argument on page 25 *et seq.* of the Petitioners' Brief, that the combination of the Patent-in-Suit supports the corners of the car better than does that of this Peckham Patent, would seem to be quite immaterial. The question is not whether this Peckham Patent anticipates the Patent-in-Suit, but whether it limits by showing the combination of elliptic and spiral springs in a Car Truck to overcome galloping. The drawings and specifications of this Peckham Patent show and describe this combination, and the specification states explicitly it is for that very purpose. How could this Court decide otherwise than that this Peckham Patent precluded any broad subsequent claims for this combination, and limited the Complainants to their own construction ?

It is suggested in the Petition and Brief that Claim 1 of the Patent in Suit recites as an element a stationary frame, and that the invention is therein distinguished from Peckham patent 419,876 which shows an axle box frame suspended from the pedestals by short links and therefore, flexibly supported. The specifications of the Patent in Suit, however, makes it quite immaterial whether the axle box frame is rigidly or flexibly supported from the saddles or pedestals. On Page 1 therein, lines 20-25 *et seq.*, it is said :

> "In my structure I mount upon the axle-
> "boxes, either rigidly *or flexibly*, what are
> "known in the art as 'sidebeams,' which
> "singly or when united laterally form a frame
> "which is not affected either by the up-and-
> "down vibrations of the car-body or movable
> "portion of the truck."

The contention, on page 39 of the Petitioners' Brief, that the Petitioners should have opportunity to offer testimony and be heard on the question whether Complainants' date of invention did not precede the filing date of this Peckham Patent 419,876, and also that of the Manier Patent, must be an inadvertence.

The Complainants' Counsel would hardly have raised this point had they not forgotten that the Patentee himself swore in his affidavit on application for the injunction in this case (Record p. 75–76), that the first working drawings of the Structure of the Patent in Suit were made December 8th, 1890, and its first mechanical embodiment was in January, 1891.

In Judge SHIPMAN's decision in the Third avenue case (Record p. 234) he says:

> "Although the patentee conceived the idea
> "of the invention of Claims 1 and 2 in May,
> "1889, and made rough sketches of it, he laid
> "it aside and did not take it up again until
> "November, 1890."

The filing date of Peckham Patent 419,876, as appears on the face of the patent, was September 2, 1889; and that of the Manier patent was June 21st, 1889.

Moreover the Peckham patent was cited as an anticipation during the progress of the Patent-in-Suit through the Patent Office. The Applicant admitted it to be part of the prior art by endeavoring to differentiate it from his application. Not the slightest intimation was then made that his date of invention preceded the reference.

But however all this may be, in view of the expressed limitations of the Patent in Suit and the radical differences in construction and mode of operation of the Defendants' structures, hereinafter in part specified, it would seem of little consequence, as far as the question now before the Court is concerned, whether that Peckham Patent anticipates or limits the Patent-in-Suit—or indeed whether it ever existed.

CLAIMS 9, 10, 11 AND 14 OF THE PATENT-IN-SUIT.

As to the suggestion contained in the Petition that if the Complainants were allowed to introduce testimony they might bring Defendants' structure under Claims 9, 10, 11 and 14 of the Patent-in-Suit, it may be stated that those claims are equally handicapped by the limitations of the specification; and, as hereinbefore stated, from these limitations they cannot escape unless the specification be first rewritten.

It is to be noted that in Claim 9 we find the following words:

> "And a plurality of springs located between
> " the stationary and movable frames, some of
> " said series being adapted to be compressed
> " by the downward movement of said movable
> " frame *subsequent to the compression of*
> " *other of the series, substantially as de-*
> " *scribed.*"

In Claim 10 we find:

> "Springs located between the ends of both
> " frames, and springs otherwise disposed be-
> " tween the two frames, *the end springs being*
> " *adapted to be compressed subsequent to the*
> " *compression of the other springs, substan-*
> " *tially as described.*"

Also in Claim 11 we find:

> "*The elliptical springs being adapted to be*
> "*brought into action subsequent to the*
> "*springs supporting the movable frame, sub-*
> "*stantially as described.*"

Also in Claim 14 we find:

> "*And spiral springs for supporting the car*
> "*body, supplemented by elliptical springs*
> "*adapted to co-act therewith, the spirals being*
> "*adapted to be compressed prior to the*
> "*ellipticals, substantially as described.*"

From this would it not seem impossible to bring Defendants' structure within the scope of these claims by any conceivable testimony, since the specification and the terms of the claims all limit the Patent to this successive action of the springs, *an arrangement wholly absent from Defendants' structure.*

Further Answer Unnecessary.

In view of the foregoing, an analytical answer to the other points in Complainants' Petition and Brief would seem to be idle.

Until Complainants can perform the impossible feat of re-writing the specification of the Patent-in-Suit, and suppressing its File Wrapper, is it not impossible by any conceivable verbal testimony to bring Defendants' structure within its scope?

Complainants' and Defendants' Structures Compared.

In the following comparison of Complainants' and Defendants' structures all points not shown by a mere comparison of the Patent-in-Suit and the drawings and models of Defendants' structure have

been ignored; that is to say, *all points requiring testimony for their support have been omitted.*

In the case of the Union Steam Pump Co. *vs.* Battle Creek Co., 104 F. R., 337-342, the Sixth Circuit Court of Appeals said:

> "If, however, such changes of size, form or "location effect a change in the principle or "mode of operation such as breaks up the "relation and co-operation of the parts, this "results in such a change in the means as dis-"places the conception of the inventor and "takes the new structure outside of the patent "(Citing Brooks *v.* Fisk, 15 How., 212-221; "Mfg. Co. *v.* Brill, 54 F. R., 380-384. 9th C. C. "A.; Gould *v.* Reeves, 15 Wall., 187-193)."

See also Westinghouse *v.* Boyden, 170 U. S., 537-569, which says:

> "But, after all, even if the patent for a ma-"chine be a pioneer, the alleged infringer must "have done something more than reach the "same result. He must have reached it by "substantially the same or similar means, or "the rule that the function of a machine can-"not be patented is of no practical value. To "say that the patentee of a pioneer invention "for a new mechanism is entitled to every me-"chanical device which produces the same re-"sult is to hold, in other language, that he is "entitled to a patent for his function. Mere "variations of form may be disregarded, but "the substance of the invention must be "there."

If this be the law in regard to a pioneer invention, how much more stringent must be its application to an invention of the limited character of that of the Patent-in-Suit?

THE COMPARISON.

THE PATENT-IN-SUIT:

On page 1, lines 62-65 of the Specification we read: "the spiral springs, which are supported by

or about the axle boxes, normally take the weight of the car."

IN DEFENDANTS' STRUCTURE the weight of the car is *borne at all times upon all the springs.*

THE PATENT-IN-SUIT:

On page 1, line 66 of the Specification we find that the elliptical springs are to be placed between the upper chord (the car-body) and the truck-frame, and are so arranged as not to be brought into action until the weight of the load on the axle-box springs begins to depress said springs "*abnormally.*" Then, and not until then, the elliptic springs begin to act.

DEFENDANTS' STRUCTURE:

In this all the springs, both spiral and elliptic, are confined between the car body and truck frame, and are held thereto rigidly, top and bottom. They must all move simultaneously, therefore, and one cannot come into action before the other.

It is as though all the Defendants' springs were simultaneously confined between the jaws of a vice, one extremity of each of the springs being rigidly fastened to the fixed jaw of the vice, and the opposite extremities of each spring being fastened to the movable jaw of the vice. Thus, whether the jaws of the vice are brought together or separated, each and every spring *must* expand or be compressed simultaneously and to the same extent irrespective of its strength or character:

THE PATENT IN-SUIT:

On page 1 of the Specification, lines 101, *et seq.*,

we find that the elliptics are so constructed and placed that they shall be called into action and aid the spirals to resist only "*the abnormal*" depression of the car.

DEFENDANTS' STRUCTURE:

In this all the springs must at all times act simultaneously and in unison, whether the car is empty or loaded to the limit of its capacity.

THE PATENT-IN-SUIT:

On page 2 of the Specification, line 116 *et seq.*, we find that the elliptic springs are not to come into play until after the axle-box springs have begun to compress; and that the action of the spirals in lifting the car-body is continued after the elliptic springs have ceased to act. We also find in the File Wrapper that the Patentee limited himself to this particular combination and coaction of his springs, in order to avoid references cited against the claims alleged to be infringed in this suit, among them the Defendant Peckham's own Patent, No. 419,876.

DEFENDANT'S STRUCTURE:

Therein all the springs are compressed and react simultaneously.

THE PATENT-IN-SUIT:

On page 3, line 25 *et seq.* of the Specification, we find that while the elliptic springs are rigidly secured to the truck-frame, they are not at all secured to the car-body. Thus they can exercise no control over any upward movement of the car-body.

DEFENDANTS' STRUCTURE:

Therein the elliptic springs are rigidly secured below to the truck-frame and above to the car-body, and partake of and aid in controlling every motion of the car-body.

THE PATENT-IN SUIT:

From a further examination of the Specification, we find that the car-body when "galloping" is spring cushioned only at the descending end, the ascending end being left absolutely free from restraint.

DEFENDANTS' STRUCTURE:

Therein the motion of the car-body is always spring cushioned and tied down at both ends, both when the car-body ends are rising as well as descending.

THE PATENT-IN-SUIT:

At page 3 of the Specification, line 69 *et seq.*, we find that when the loading is not excessive, the ordinary action of the car-body is all taken up on the spiral springs; and that the elliptics then act merely as buffers to cushion the descending motion at the descending end of the car-body when the car gallops.

DEFENDANTS' STRUCTURE:

Therein this is not so, since all of its springs are *held top and bottom and are always in action.*

THE PATENT-IN-SUIT:

The "*spring-base*" is the distance between the centers of the two springs which are nearest the ends and on the same side of the car.

The "*wheel-base*" is the distance between where the wheels on the same side of the car touch the track.

The spring-base of the truck of the Patent-in-Suit, under normal conditions, when the load is wholly carried on the spiral springs, is far shorter than the spring-base of the Defendants' trucks; since then the spring-base of Complainants' trucks is but the distance from the center of one spiral spring near the axle-boxes to the other on the same side of the car.

DEFENDANTS' STRUCTURE:

In Defendants' trucks, the spring-base is always the distance between the outermost springs at the extreme ends of the car and therefore much longer. The tendency to oscillate, therefore, is far greater and less controlled in the Complainants' than in the Defendants' trucks.

THE PATENT-IN-SUIT:

We find in the specification that under normal conditions of load the car is carried on the spiral springs alone. On page 3, line 70, it is stated:

> "When the excessive loading is not present, "the springs on the ends of the side beams "[the elliptics] act as buffers, the ordinary ac- "tion of the car body on the truck being taken "up by the spiral springs."

Thus under these circumstances, Complainants' truck is one having a very short spring-base (but

little longer than the wheel-base) which invites "galloping," and their method is confined to an endeavor to subdue the galloping at the descending end only of the car by the buffer action of the elliptic springs at that end car; the ascending end being unchecked or uncontrolled in any way.

DEFENDANTS' STRUCTURE:

Therein the spring-base is always substantially as long as the extended truck frame, and the arrangement and mode of operation is such as to meet and check galloping at its very inception at both ends of the car. Defendants' construction is preventive; Complainants' construction permits the development of the disease and then seeks to cure it.

THE PATENT-IN-SUIT:

The galloping motion is alleged to be obviated by the employment of springs of different character and of opposed periods of oscillation, thus breaking up their rhythm.

DEFENDANTS' STRUCTURE:

Therein this difficulty is met and overcome by the introdnction of underlying springs, which resiliently tie down both ends of the car-body, so that neither end can rise, as it must in galloping, without lifting the weight of the entire truck frame and all its appendages; and this the galloping tendency lacks the power to do.

The construction is this. Bolts are rigidly fastened to the extreme ends of the car body. These pass loosely down through and project beyond the under side of the truck frame. There they terminate in a large head, between which head and the under side of the truck frame spiral

springs—" the underlying springs "—are placed. Thus when either end of the car body begins to rise, as it must do in the process of galloping, these spiral springs are compressed and resist the motion. They are so regulated that not until they are fully compressed is the motion of moment. But when the underlying springs are fully compressed, then the bolts, being rigidly secured to the car body above and bearing rigidly against the under side of the truck frame below, the car body is solidly locked to the truck frame and cannot rise any more without lifting the weight of the truck frame, motor, axles and the wheels, which is beyond the power of the galloping tendency to do.

It is to be noted that these underlying springs have absolutely no counterpart in the Patent-in-Suit.

Contrast this simple mechanical common-sense device, with Complainants' visionary theory that in the Patent in Suit galloping is obviated by breaking up the rhythm of the springs.

THE PATENT-IN-SUIT:

The critical differences between Complainants' and Defendants' constructions may be made to further appear by considering their modes of operation, not at one moment of time when one end of the car is descending and the other ascending, but during a longer period in which the results of that action are observable. In Complainants' structure when, from an uneveness of the track or an obstruction thereon or from other cause, an impulse is imparted to the car body which causes it to gallop, or oscillate longitudinally, the car body being entirely free and unrestrained at its ends, the descending end strikes, with considerable

energy perhaps, upon the tops of the elliptic springs, delivering a hammer-like blow and more or less compresses them. The natural recoil of the car-body after such an impact supplemented by the reaction of the compressed elliptic springs, throws that end of the car up with more or less violence, and its other end descends delivering a blow upon the other elliptic springs, which thereby are compressed. This end of the cars now recoils in like manner, and the tetering back and forth continues until gradually the carbody again assumes its normal position of equilibrium, in which it is supported (unless the load be abnormal) solely by the spiral springs adjacent the axle-boxes.

THE DEFENDANTS' STRUCTURE:

In Defendants' structure the long spring-base, substantially equal to the length of the extended truck frame, at all times supports the car body at its ends as well as adjacent to the axle-boxes; and therefore the tendency to the rocker-like or "galloping" motion is reduced to a minimum. Should an impulse be imparted to the car body *tending* to produce "galloping," the tendency for one end of the car to rise is met and subdued in its incipiency by the underlying springs and bolts provided at that end for that purpose; and such increased downward pressure of the other end of the car upon the elliptic springs, supporting it at all times, is merely incidental, just as is shown in the Defendant Peckham's Patent No. 464,253 (which was before the Court and which antedates the Patent in Suit both in filing (Oct. 30th, 1890) and issue dates)—indeed it was filed before Complainants earliest date of invention, Dec. 8th, 1890. At no time is the Defendants' car body uncontrolled or unrestrained at its ends, and free to rock through an arc of any dimensions however small. Whereas

in the structure of the Patent iu Suit the car body is absolutely uncontrolled and unrestrained at its ends from rocking through an arc, the amplitude of which is determined by the normal space intervening between the tops of the elliptic springs and the car body or the guiding shoes thereon.

CONCLUSION.

If these differences appear from the mere comparison of the Patent in Suit and the drawings and models of the Defendants' structure, how can any conceivable additional testimony bring a structure so radically different in construction and mode of operation as the Defendants', within the scope of that Patent?

These considerations would seem to irresistibly bring the impartial mind to the conclusion expressed in the Decision of the Appellate Court.

"THE CASE IS ONE IN WHICH IT IS APPARENT THAT THE COMPLAINANTS CANNOT ULTIMATELY PREVAIL."

If the rule laid down by the Supreme Court in the Mast-Foos case is ever to be applied, why should it not be applied in this case? What case can be more extreme than this?

If the following language of the Supreme Court in that case does not apply to this case, to what case can it apply?

> "But if the bill be obviously devoid of "equity upon its face, and such invalidity be "incapable of remedy by amendment * * "* * we know of no reason why to save a

"protracted litigation, the court may not order
"the bill to be dismissed * * * * *or if*
"*no question be made regarding the identity*
"*of the alleged infringing device and it ap-*
"*pears clear that such device is not an in-*
"*fringement*, and no suggestion be made of
"further proofs upon the subject, we think
"the Court should not only overrule the order
"for the injunction but dismiss the bill."

(The italics are ours.)

Three points are here called for. If these are found in favor of the Defendants, "*The Court * * * * should dismiss the bill.*"

First: The identity of the alleged infringing device should be clear.

This has not been questioned by either side.

Second: It should "appear clear that such device is not an infringement."

On comparison of Defendants' Structure with the Patent in Suit construed in accordance with the limitations contained in its specification, does it not appear clear that Defendants' device is not an infringement?

Third: That "no suggestion be made of further proofs upon the subject."

This means, of course, pertinent proof, reasonable proof, proof which will tend to cause doubt in a reasonable mind upon the question of infringement.

The best possible evidence in this case is the comparison of the Patent in Suit with the Defendants' Structure. Is it not impossible to suggest any secondary evidence, any parole evidence, any "further proofs," which can overthrow what

is thus shown—that it is impossible to bring the Defendants' Structure within the scope of the Patent in Suit?

This comparison presents not the slightest difficulty. The matter involved is not unusual, technical or abstruse; and, therefore, is not one in which the Court might be aided by expert testimony, as, for instance, in a case involving chemical reactions or the mathematics of electricity. To make it the Court needs not the slightest assistance. A thousand experts could not make the matter more clear. *No future evidence can add to or subtract one word from the Patent, nor a bolt or nut from the Defendants' Structure.* It is the test of this comparison which the Complainants must successfully meet. No testimony, or suggestion of testimony, on any other point can avail them.

The Courts have not unfrequently dismissed a bill on demurrer because of lack of invention in the Patent in Suit apparent upon the face of the papers. The fundamental principle is the same. The Mast-Foos case merely extends this principle to cover cases where the patent and proofs on appeal from a motion granting a preliminary injunction show that the Complainant cannot ultimately prevail in the suit. In the Case at Bar this is shown by comparison of the Complainants' Patent and their own proof of what Defendants' device was.

The Mast-Foos case is perhaps the most beneficent patent decision of recent years. It gives prompt protection to the weak when assailed with unwarranted demands by the strong based upon prior decisions where the issues were not the same. It can do no injustice to any man. The rights of a Defendant to protection against an unjust demand, are as dear to this Court as the rights of a Com-

plainant to enforce a just demand; and the more speedily and with the least cost an unjust demand can be suppressed, the more nearly the administration of justice approaches the ideal.

In the Case at Bar the specification of the Patent and its file-wrapper over and over, and then again and again, persistently insist that the invention resides in a certain structure involving a certain successive action of the spiral and elliptic springs, and the claims require that the combination and operation of the spiral and elliptic springs shall be as so described.

Do the Defendants use that combination and mode of operation? From the complainants' own proof of what the Defendants' device was, the Appellate Court decided that the Defendants did not.

That is the only question, and to that question but this one answer is possible.

If these things be so, would it not be most inequitable to compel these defendants to pay thousands of dollars, little of which they can ever recover, to litigate a question of infringement, the only possible answer to which is already apparent?

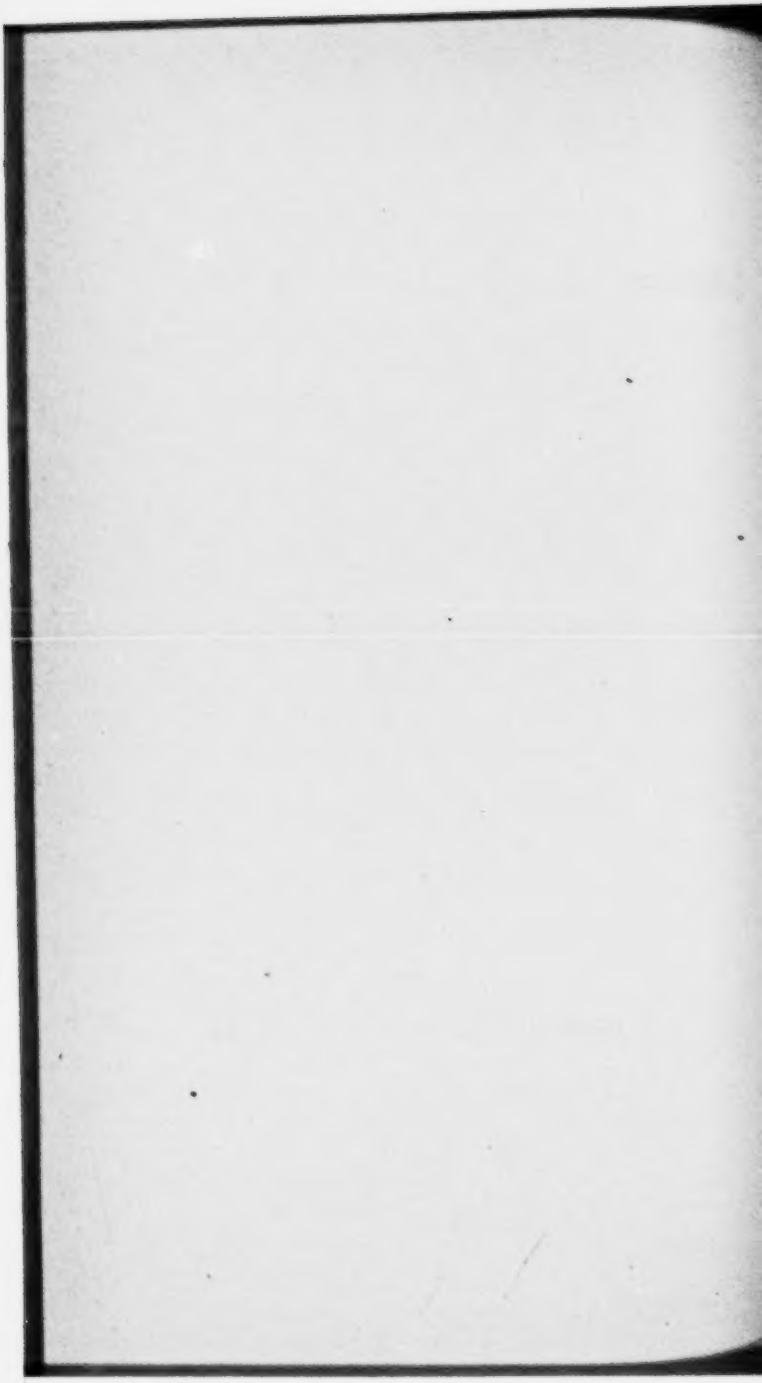
THE PETITION SHOULD BE DENIED.

All of which is respectfully submitted.

HENRY P. WELLS,
Of Counsel for Defendant,
35 & 37 Nassau Street,
New York City,

New York, October 24th, 1901.

NOTE.—The Consolidated Fastener Case, 100 F. R., 984, cited at the bottom of page 13, of the Petition, was decided February 28th, 1900. The Mast-Foos case was decided by the Supreme Court on April 23d, 1900, and of course supersedes the Fastener case.



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Supreme Court of the United States.

OCTOBER TERM, 1902.

NO. 181.

JOHN A. BRILL and the J. G. BRILL COMPANY,
Complainants and Petitioners,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, *et al.*,
Defendants and Respondents.

BRIEF FOR RESPONDENTS.

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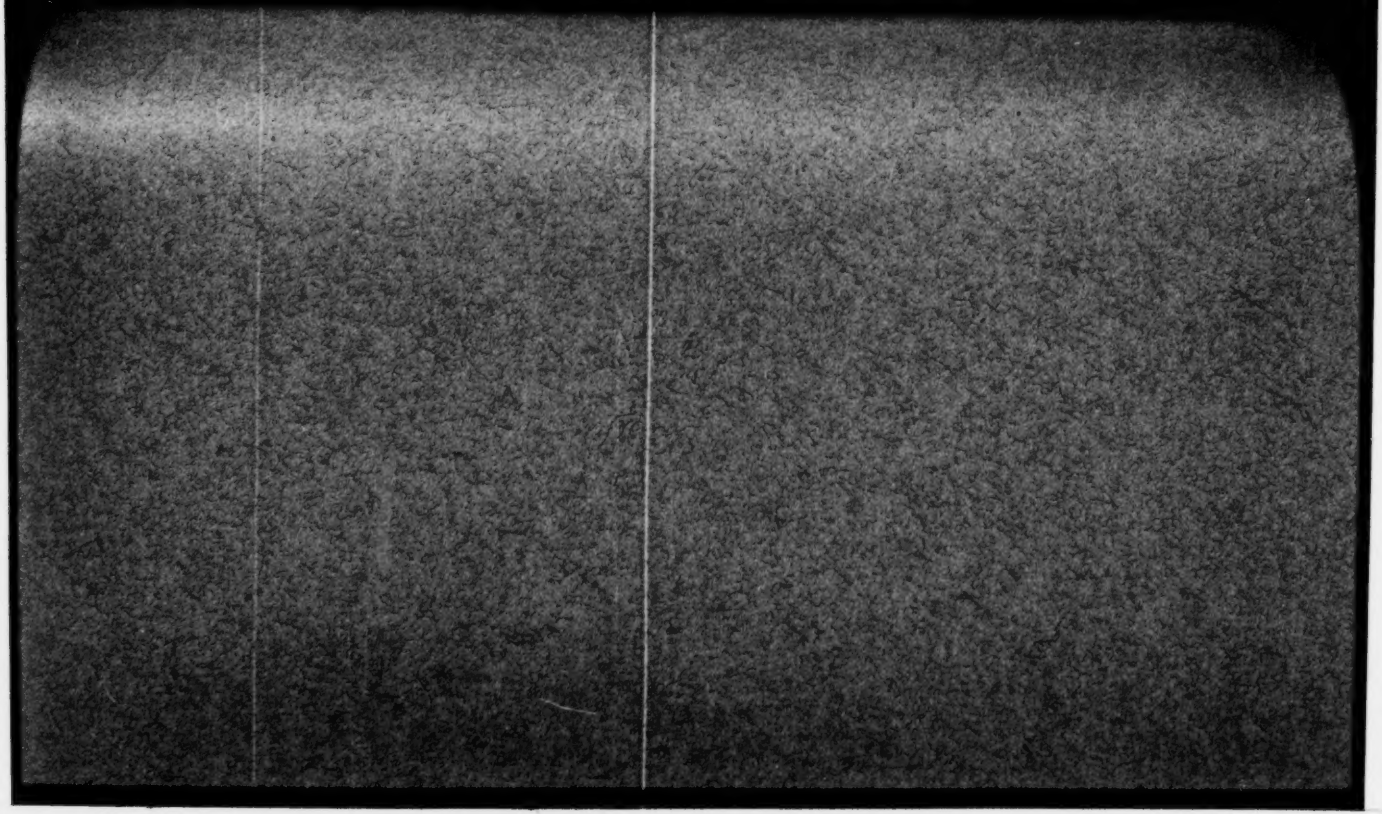

In the United States Supreme Court

JOHN A. BRILL AND THE J. G. BRILL COMPANY, *Petitioners,* vs. THE PECKHAM MOTOR TRUCK & WHEEL COMPANY, *Respondents.*	*In Equity.*

BRIEF FOR RESPONDENTS.

STATEMENT OF THE CASE.

This suit was originally brought in the United States Circuit Court for the Southern District of New York, by John A. Brill and the J. G. Brill Company for an alleged infringement of letters patent No. 478,218 granted to George M. Brill July 5, 1892, for improvement in Car Truck.

A motion for a preliminary injunction to restrain the Defendants from infringement of the first and second claims of the patent was made and granted. An appeal being taken, the Circuit Court of Appeals (Judges Wallace, Wheeler and Thomas sitting) by unanimous vote reversed the order granting the injunction and remanded the case to the Court below with instructions to vacate the injunction and to dismiss the bill with costs. (Record 150-154; 108 F. R. 267.)

The motion for injunction and the appeal were heard on the record in an earlier suit brought under this patent, in the Southern District of New York, by Brill, against the Third Avenue Railroad Company, which resulted in a decree for the Complainant for an injunction as to Claims 1, 2, 9, 10, 11, 12, 14 and 27, and from which no appeal was taken, which record was further supplemented by further depositions, documents and other exhibits. (Record, pps. 136, 137.)

A petition for a rehearing was presented and granted. Upon such rehearing the majority of the Court was of the opinion that no modification of the order should be had and it was so ordered. (Record, 154-167, 110 F. R. 377.)

A petition for a writ of *certiorari* was presented to this Court and granted, and the cause is now presented to this Court as a review of such decision of the Circuit Court of Appeals.

THE PATENT.

Petitioners claim infringement of Claims 1 and 2.

> 1. In a motor-truck, the combination, with a stationary frame supported upon the running-gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame, substantially as described.
>
> 2. In a truck, a spring-supporting frame supported upon the running-gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring supporting frame and the movable frame, substantially as described.

Construction of Claims by the Circuit Court of Appeals.

In considering these claims the Circuit Court of Appeals held that they must be limited to the combination specified, in which "spiral springs and ellipitical springs are so arranged that the latter are not brought into action until after the former have begun to compress."

There can be no quesion but that this construction, placed upon these claims by the Circuit Court of Appeals is the correct one.

FIRST. The specification of the patent forbids any broader construction to be placed upon these claims.

The specification of the patent speaks for itself. On page 1, lines 63-75, it is said:

> "The spiral springs, which are supported by or about the axle-boxes, normally take the weight of the car.
>
> "Between the extended sections of the upper chord and the side beams I place elliptical springs, which *prefcrably* extend longitudinally of the truck and which are so disposed that they will not be brought into action until the weight of the load on the axle-box springs begins to depress said springs abnormally. Then the elliptical springs begin to act, and assist the spiral springs in resisting the pressure of the load."

We have here then a combination of spiral and elliptic springs in which the spirals normally carry the weight of the car; and elliptic springs *preferably* longitudinal of the car, which are not brought into action until the spiral springs are abnormally depressed.

Again, on page 1, line 101:

> "And an adaptation of my invention consists in making the axle-box springs comparatively weaker and slower than has formerly been done, and to place elliptical springs in such a way as to assist the spiral springs in resisting the abnormal depression of the car and in equalizing the end oscillation of the same, the elliptical springs being slower in their action than the spiral springs."

Here we find other characteristics of the combination. The spiral springs are to be weaker than had been customary; the elliptic springs are to be so placed as to assist the spiral springs in resisting abnormal depression; and the elliptic springs are to be slower in their action than the spirals.

At page 2, line 116, we read:

> "It is, therefore,clear that more than ordinary load is intended to be carried on this structure, and for this reason more than ordinary devices for spring supporting the car-body are necessary. To this end I supplement the axle-box springs by placing elliptic springs of slower action between the extended portions or sections of the side beams and upper chord, and so arrange them in respect to each other that the elliptical springs will not come into play until the axle-box springs have begun to compress, and the action of the spirals in lifting the car-body is continued after the elliptic springs have ceased to act. The devices which secure the elliptical springs between the side beams and the upper chord are devised to permit one end of the upper chord to approach the side beams and the other end to be elevated, as will occur in the act of oscillation, one set of elliptic springs being compressed while the other remains in its normal condition."

Here again we have a combination in which the elliptic springs are slower than the spirals; which do not come into action until after the spirals have begun to compress; and the elliptics are so fastened to the structure that when one end of the car body goes down in galloping, the elliptic at that end will be compressed, while the elliptic at the other end remains in its normal condition. In other words, the elliptics are fastened underneath to the truck frame, but are not fastened on top to the car body, as appears more plainly on page 3, line 25, where we read:

> "From the foregoing structure, it will be seen that the springs (elliptic) are rigidly secured to the side beams. They are, however, not secured rigidly to the upper chord (the car-body), so that any upward movement of it will not affect them. The upper chord (the car-body), however, is provided with means for retaining the upper half of the springs

(elliptics) perpendicular to the side beams."

While the "upper chord" is not the "car-body," strictly speaking, still as it is so bolted to it as to be absolutely integral with it when the car is ready for use and partakes of its every motion, it was thought the true bearing of the quotation would be more apparent if those words were interpolated.

Then follows on page 3, lines 34-45, a description of a saddle or fork, which is attached to the car-body (upper chord) in such a way as to straddle the top of the elliptics, and so arranged that the bottom of the saddle will bear upon the elliptics and compress them only at that end of the car which may be depressed, and only then; whereas, when the end of the car-body rises, as in galloping, the saddle rises with it leaving the upper side of the elliptic entirely free from compression and wholly out of action.

Again, on page 3, line 69, we read:

> "When, by reason of excessive loading of the car-body, and consequent depression of the springs (spirals) a portion of this action would be taken on the springs (elliptics) supported on the ends of the side beams. When the excessive loading is not present, the springs on the ends of the side beams act as buffers, the ordinary action of the car-body on the truck being taken up by the spiral springs."

The combination of the springs in the Patent-in-Suit therefore, is (A) one in which the spiral springs near the axle-boxes carry the whole load under normal conditions, while (B) the elliptic springs only come into action after an abnormal load has considerably compressed the spirals, or at the descending end of the car when the car gallops. Also (C) the elliptics are to be rigidly secured only at their bottom to the truck-frame; while (D) their upper connection with the car-body is a loose connection not touching the car-body at all under normal conditions, permitting the car-body to rise and leaving the elliptic spring behind, only again to come into action when the car is depressed below the normal. In other words, the elliptic springs are wholly inoperative and might just as well

have been omitted from the structure, except when the car-body or its ends are abnormally depressed.

The Circuit Court of Appeals, after reading the specification, was compelled to say:

> "If the patentee had attempted to do so, it would have been difficult to frame a specification which more industriously sets forth as essential to his invention such a construction and arrangement of the spring devices that the elliptic springs will not be brought into play until the spiral springs have been compressed by the weight of the car-body and the added load, 'until the weight of the load on the axle-box springs begins to depress said springs abnormally.' This characteristic of the invention must be imported into the claims, and would have to be if the qualifying term, 'substantially as described,' had not been incorporated into them."

(Record p. 153, 108 F. R. 271.)

Claims 1 and 2, literally construed, do not correctly represent the patentee's invention as disclosed by the specification, and recourse properly was had to the specification by the Circuit Court of Appeals in construing the claims.

Pope Mfg. Co. vs. *Gormully, &c. Co.*, 144 U. S. 238.
Boyden Co. vs. *Westinghouse*, 170 U. S. 537.

SECOND. The proceedings in the Patent Office while the application for the patent was pending, as shown by the file wrapper and contents ,forbid any broader construction being placed upon these claims. The File Wrapper of the Patent-in-Suit is printed in full on page 222a of Defendants' Record in the Third Avenue Case, which is before the Court.

When we turn to this File Wrapper and investigate the history of this Patent in the Patent Office, we find that in order to enable the Patentee to obtain Claims 1 and 2 of the Patent, to escape the anticipatory references cited against these claims, the Patentee limited himself to the specific combination of spirals and elliptics so coacting as to have the specific functions stated in the preceding subdivision.

The File Wrapper and Contents show that the case, as originally filed, embodied a large number of claims.

On August 24th, 1891, the Patent Office transmitted the following letter of Rejection (See Defendants' Record Third Avenue Case, p. 240, fol. 718).

> "By reference to Peckham 419,876, January 21, 1890, it will be noticed in Figs. 4, 5 and 6 that semi-elliptic springs are used for the end of the car. It is held that no patentable difference exists in substituting an elliptic spring for the spring named, and especially in view of the following patent, wherein elliptic springs are shown for the end of the car, Taylor, 437,167 Sept. 23, 1890. The arrangement of the upper and lower frames and the springs is in other respects very similar to Robinson, No. 451,952, May 12, 1891. (These references are all in trucks, street car and motor.) In view of the patent cited, therefore, Claims 1, 2, 3, 4, 11, 12, 13, 16, 17 and 25 are rejected."

The above Peckham Patent was that cited in Judge Shipman's Decision.

On September 21st, 1891, the Applicant filed the following answer to this rejection. See Defendants' Record. Third Avenue Case, p. 241, fol. 723:

> "Robinson of record does not show nor describe the arrangement of springs of varying tension, nor springs adapted to supplement the action of other springs, nor springs coming into action before the other, nor the combination of spiral and elliptic springs for supporting the movable frame of the truck.
>
> "Taylor of Record does not show nor describe springs of varying tension interposed between the movable frame and stationary frame, nor does he show a movable frame. His truck has but one frame, and the springs that he shows are secured to the car-body directly. Nor does he show the combination of elliptical and spiral springs, interposed between the movable and stationary frame of the truck, nor does he show one series of springs adapted to act before the other, one supplementing the other.
>
> "Peckham describes nothing about one set of springs being quicker or slower than the other, nor one series of springs being adapted to act prior to the other series."

Again and again the Applicant insists upon the peculiar method of coaction and time of operation of his combination of spiral and elliptic springs, and upon these differentiations avoided the anticipatory references hereinbefore mentioned.

It is elementary, and laid down in decisions almost without number, that where an Applicant has insisted upon a certain construction of his specification and claims in order to overcome anticipatory references cited against the application in the Patent Office and thus obtains his patent, he cannot thereafter be heard to claim a broader or different construction. Citations of authorities seems unneccessary.

If these decisions correctly set forth the Patent Law then it would seem unavoidably to follow that the Patent-in-Suit is limited to a combination of elliptic and spiral springs in which "one set of springs being [is] quicker or slower than the other," and "one series of springs being adapted to act prior to the other series."

This matter of the File Wrapper and Contents of the Patent-in-Suit is considered at length and with numerous quotations in the affidavit of Respondent's expert, Phillips Abbott, beginning at fol. 211, on page 126 of the Record; also more briefly in Mr. Newbury's affidavit beginning page 109, fol. 182.

THIRD. The prior art also forbids any broader construction being placed upon these claims.

The Circuit Court of Appeals, in referring to the prior art, at page 151 of the Transcript of Record, said:

> "The patent, so far as concerns the employment of the springs, is for an invention which is intended to diminish the end vibration or oscillation of the car-body, known as "galloping," when moving over the track, and which in the long cars having a comparatively short wheel-base is especially obnoxious. Its distinguishing feature is the employment of two kinds of springs, spirals for supporting the car-body above the axle boxes, and elliptic for supporting it at the ends. Brill was not a pioneer in the use of springs for this purpose. Among the patents granted before the filing of the application for the

Patent-in-Suit, the two in the prior art showing the nearest approximation to the invention of Brill are No. 409,993, granted August 27, 1889, to Benjamin F. Manier, and No. 419,876, granted January 21, 1890, to Edgar Peckham. Manier's patent describes the employment of springs for the purpose of obviating the rocking or oscillating movement of the car-body. The specification contains this statement: 'Preferably I employ spiral springs G, as shown in Fig. 1, for supporting caps I; but, if desired, the elliptical springs g could be employed, as shown in Fig. 3; or other forms of springs may be used, as found convenient and desirable, the particular form of spring not forming a part of the present invention.' This patent shows every element of the first claim of the Patent in-Suit broadly considered, except the conjoint use of spiral and elliptical springs, one of the drawing showing spiral springs only, and the other showing elliptical springs only. The patent does not show the combination of the second claim because the saddles are absent.

"The invention in the prior patent to Peckham 'consists in a novel construction of a car-truck designed to afford spring supports under the end portions of the car-body as well as the axles, and thus support said body nearly throughout its length and also obviate in a great measure the vertical oscillation of the same when moving over an undulating track.' The specification describes the spiral axle-box springs of the Patent-in-Suit, and 'suitable springs' for supporting the car-body at the ends 'which may be either of the spiral species, as shown at *t t*, or of the so-called semi-elliptical form, as shown at *t*' in Figs. 4 and 5 of the drawings, which latter form of spring is disposed cross-wise of the truck and rests with its ends in suitable shoes.' It also shows saddles mounted like those of Brill upon the axle-boxes. Of this patent the expert for the Complainant makes this statement: 'While the construction shown in this Peckham patent clearly does not embody the combination recited in the several claims of the Brill Patent-in-Suit, and while the Peckham patent contains no indication that any advantage would be attained by the use of a semi-elliptic spring across each end of the car in conjunction with spiral springs supporting the car-body over the journal boxes, I am inclined to think that the construction embodying the semi-elliptic springs would measurably attain the result that is attained by the

conjoint use of the spiral and elliptical springs, as embodied in the Brill truck, and that a car having the truck structure shown in Figs. 4 and 5 of this Peckham patent would be less liable to excessive longitudinal oscillation than any of the trucks of the prior art heretofore considered.'

"It thus appears that it was old in the prior art to employ for the purpose of obviating the oscillation of the car-body all the parts enumerated in the first and second claims, except the two kinds of springs in the same car-truck, and that the only novelty in the inventions of those claims, details of construction being disregarded, consists in the substitution of both spiral and elliptical in the place of either spiral or elliptical springs. Indeed, the inventions are wanting even in this measure of novelty, and reside merely in the substitution of elliptical for the semi-elliptical end springs. The claims are not limited to longitudinal end springs, as the specification points out they are only preferably employed; and the circumstance that the semi-elliptic springs of the Packham patent extend transversely instead of longitudinally is, therefore, immaterial."

This statement as to a portion of the prior art correctly sets forth what is disclosed by the two prior paents referred to and is in line with the statements made by Respondent's experts, Abbott and Newbury.

Referring to the substitution of elliptics for semi-elliptic springs and their arrangement, Mr. Newbury, at page 112, fol. 187 of the Record, says:

"It is a well known fact to persons skilled in the art of springs, that the action of semi-elliptic springs is identical in kind and character to that of full elliptics; in fact, it must be so since a full elliptic is simply two semi-elliptics. From this it follows, when semi-elliptic springs are used, as in this Peckham patent, No. 410,876, it would be in effect, so far as the character of their action is concerned, substantially the same as if full-elliptic springs were employed, as shown in the Brill Patent-in-Suit.

"In this connection it is to be borne in mind that this Brill patent, page 1, line 66, *et seq.*, states that the elliptic springs preferably are arranged longitudinally of the truck; and if this is the case, then it is permissable to place them crosswise thereof, as

the semi-elliptic is placed in the Peckham patent, and such an arrangement would be as fully within the Claims 1 and 2 of this Brill patent, as if they were arranged longitudinally of the truck.

"The mere term 'elliptical spring' does not imply a spring having a different kind of action from a spiral spring, because a single-leafed elliptical spring has substantially the same character of action that a spiral spring has; but the addition of more leaves to this single-leaf elliptic spring changes its character of action to the extent that the rubbing action between the adjacent leaves cause fricion, which has to be overcome, both in the compression of the spring and its expansion, and this is true whether the springs be of the elliptic form, semi-elliptic, quarter-elliptic, or straight form."

It is obvious that no construction other than that adopted by the Circuit Court of Appeals can be placed upon Claims 1 and 2 of the Patent-in-Suit, and that any atempt to do so must result most disastrously to the Petitioners as it would compel a finding that the claims are void.

We insist that Claims 1 and 2 are void because *anticipated* by the Peckham Patent 419,876.

Respondents' Car Trucks Described.

The Court below having correctly construed the claims in suit, it becomes necessary next to consider whether the Court correctly held that the Respondent's trucks did not fall within the claims thus construed.

The structure of Respondents' three trucks, known to the trade as the "Excelsior," "Standard," and "Extra Long," designed for short, medium and extra long car bodies, are tolerably well shown opposite page 45 of the Record. This page is a reproduction of an advertisement of the Respondents' Company, and from it, particularly when aided by the models of the "Excelsior" and "Standard" trucks, which will be before the Court, their structure can accurately and easily be understood.

Leaving out of consideration, the parts which are common to all car trucks, such as axles, car-wheels, truck-frame, etc., the Respondents' trucks have nothing in com-

mon with the Patent-in-Suit, except the employment of elliptic and spiral springs to support the car-body.

In the illustrations of Respondents' trucks shown opposite page 45 of the Record, the movable frame is shown at the top, between which and the truck-frame the elliptic and spiral springs are interposed. Upon this movable frame the car-body is rigidly bolted so as to become integral with it when the car is in use. For the purposes of this argument, therefore, it will be simpler if we group these two parts together under the one name of the car-body, and so this term is hereinafter to be understood. Between this car-body and the truck-frame are interposed spiral and elliptic springs, each and every one of which is rigidly held on the bottom to the truck-frame and on the top to the car-body. Thus all the springs under consideration, both spiral and elliptic, are located in the Respondents' structure as though between the jaws of a vise, to which jaws the contact ends of the springs were rigidly fastened. With such an arrangement it is obvious that when the jaws of the vise are opened all the springs must simultaneously extend as a unit, no matter how different in strength of character they may be. It is also obvious that when the jaws of the vise are screwed together, all the springs must be simultaneously compressed as a unit, no matter how they may differ in strength or character. They cannot act, one set before the other, as stated in the Patent-in-Suit and in its File Wrapper.

Just so are the springs of Respondents' trucks under consideration, placed between the car-body and the truck-frame. All are rigidly held top and bottom, and all must *simultaneously* and uniformly adapt themselves to any change in the relative parallelism or other position of the car-body and truck-frame. In all three of the Respondents' trucks near the ends, and one at each corner, a bolt, rigidly fastened to the car-body, descends through the spiral cushioning spring, passes through the truck-frame and projects underneath. Around this underneath projection of this bolt is placed a spiral spring, which bears upon the under side of the truck-frame.

The office of this underlying spring is most important.

It is the only provision in the Respondents' trucks to overcome galloping, and that is its sole function. It has no duplicate or corresponding part in the Petitioners' Truck-in-Suit. It is unique and peculiar to the Peckham trucks. It was the first method adopted by him to overcome this difficulty, and appears so far back as in his Patent No. 464,253 of December 1st, 1891. (See letter *U* Fig. 1 of that Patent.) It originated with him some years before that patent; and it, and it alone, has been his only device for overcoming galloping from that date to this.

References to the affidavits substantiating these facts will be cited later.

These underlying springs are obvious in the models and show very well in the "Standard" and "Extra-Long" trucks as illustrated opposite page 45 of the Record; but they do not appear, though equally existent, in the illustration of the "Excelsior" truck, since they are enclosed in a pocket of the lower chord of the truck-frame which conceals them. In the model, however, one side of one of the pockets has been cut away to show them.

Now note the action of these underlying springs. It has already been shown from Petitioners' own papers, that in galloping one end of the car-body goes up while the other end goes down, the ends alternating in elevation and depression just as in the see-saw of our boyhood.

Let us assume a street car in rapid motion. A low rail joint is reached. Down goes the forward end of the car while the rear end rises, or rather would rise but for the action of these underlying springs at the rear end of the car. It is obvious as the car-body begins to rise it draws up the bolts rigidly attached to it through the truck-frame, and begins to compress the underlying springs. These springs in practice are of such strength that if not compressed to their limit, the rise of the car-body from the truck-frame is so trivial as to be of no moment.

But should the tendency to rise become excessive, the underlying springs are compressed to their limit. The car-body then becomes rigidly attached to the truck-frame and can rise no further without lifting the wheels, axles, truck-frame and motor with it, and to do this the lifting power is inadequate. At the same time, the descent of the

forward end of the car-body is checked by the compression of the springs interposed between it and the truck-frame. Thus the tendency to gallop is met *simultaneously at both ends of the car.*

The eminent consulting engineer, Mr. Fowler, whose experience in testing railway appliances with instruments of precision is, perhaps, greater than that of any other man in the country, in his affidavit (Record, p. 157, fol. 18), speaking of this Peckham method, says that it was devised by Peckham while he was in Peckhom's employ prior to 1890, and that it is "the most effectual method now known and in use for overcoming the galloping motion in street cars."

Compare this common-sense mechanical structure with that of the Patent-in-Suit, which (A) opposes the tendency to gallop only by meeting and cushioning the descending end of the car, (B) leaving the other end free to do as it will; (C) which attributes the galloping in street cars to a rhythm of motion between the springs interposed between the car-body and the truck frame; and (D) relies, to accomplish its purpose upon breaking up this rhythm by the introduction of springs of varying character acting one after the other—*can any two modes of operation conceivable be more radically different?*

Mr. Peckham gives the history of this device in his affidavit, beginning page 84 of the Record. He entered into the manufacture of street car-trucks at the beginning of the substitution of electricity for horses. He was at once confronted with the problem of the unavoidable necessity of a short wheel-base, the commercial necessity of a long car body, and the galloping difficulty to which the combination gave rise (p. 85.) At first he endeavored to meet it by extending the spring-base of his truck out to the ends of the car, and tying the ends of the spring-base and of the car-body together by passing bolts from the ends of the car-body down through the truck-frame, to the under side of which they were secured. It was found that the check was too abrupt, and rubber springs were interposed between the heads of the bolts and the lower side of the truck-frame. This was an improvement and immediately suggested the substitution of spiral

springs for the rubber cushions. And upon this method, and this alone, he states that he has relied to overcome galloping from that day to this (Record, pp. 85-87).

He states, Record, p. 91, fol. 151:

> "I and my companies have made and sold eight thousand or more trucks of this construction, all of which, as far as I know, are still in use, and in regard to the efficiency of which in overcoming the galloping motion, I have had no complaints from those using them; and this is notwithstanding that these sales have extended over some eight years or more, so that there has been ample time for complaint if there was any cause for it."

Neither he, nor the Respondent Company, nor any company with which he has been connected, has ever made any four-wheeled street car-truck in which any other means than this underlying spring has been relied on to overcome galloping (Record, p. 88).

He describes its mode of operation as above, on pages 86-87, of the Record, and concludes with these words:

"Thus it will be seen that I have attacked the problem from one direction, while Mr. Brill, Complainant's Patentee, attacked it from a wholly different, and, as I have always believed, mistaken direction."

Mr. Fowler, who was then in Mr. Peckham's employ, and who installed the Peckham works at Kingston, New York, corroborates this. He gives this history of this device and its mode of operation at length (see Record, pp. 93-94).

The construction, mode of operation and efficiency of the Peckham underlying spring method of overcoming galloping, is confirmed by the following affidavits on the part of the Defendants:

Newbury (Record, p.44, fol. 191);

Abbott (Record, p. 115, fol. 192).

McGowan was for ten years master mechanic of the Third Avenue Railway, and until the spring of 1900. He had 175 Brill (Bemis), and substantially an equal number of Peckham's trucks of the "Excelsior"type, in use on the same tracks at the same time. All the Peckham

trucks had the underlying anti-galloping springs. When the change from cable to electricity was made on that road, all the Brill (Bemis) trucks were thrown into the scrap heap, while all the Peckham trucks were supplied with electric motors and are still in satisfactory use. He describes the superior efficiency of the Peckham trucks, as demonstrated by their use, side by side with the Brill trucks (Record, pp. 101-102).

Beetem, general manager of the Queens County Railway, has been manager of the Atlantic Avenue Railway of Brooklyn, the Scranton Railway and Union Traction Company of Philadelphia, for ten years; and before that was engaged in the manufacture and sale of cars and trucks for steam railways; has used both Brill's and Peckham's trucks; and describes the truck of the Patent-in-Suit (Record, p .103). He states that electric cars are usually from twenty-six to thirty feet long and limited to a seven foot wheel-base, outside which the car ends projcet from eight to ten feet. When running eight miles an hour, a car will gallop at depressions in the track "unless the rear end of the car-body is tied down to the truck-frame so that it cannot rise." In Brill's trucks the car-body is not so secured.

He describes the construction of Peckham's trucks, the underlying springs, and their action. These springs and their allied bolts tie down the ends of the car body so that they cannot rise, and therefore cannot gallop, without lifting the wheels, axles, truck and motor, which it lacks the power to do (Record, p. 103).

> "With proper care to regulate the under tension springs, a Peckham truck of the 'Extra Long' type will run at a speed of fifteen to twenty miles an hour on an ordinary road bed with very slight oscillation; while the Brill truck referred to in this suit, having a shorter spring base and no provision to hold the ends of the car-body firmly to the truck-frame, will not run ten miles an hour without excessive oscillation." (Record, p. 104, fol. 173.)

RESPONDENT'S ELLIPTIC SPRINGS AND THEIR FUNCTION.

Mr. Livermore, Petitioners' expert (Record, p. 71), states:

"It seems obvious that there is no reason for adopting the elliptical springs in these Peckham trucks other than in order that they may co-operate with the spiral springs in order to prevent excessive endwise oscillation or galloping movement of the car-body, the same as is done by the like combination of elliptical and spiral springs in the specific arrangement shown in the drawings of the Brill patent."

In view of other parts of this gentleman's affidavit, it is obvious that he means that the sole office and function of Peckham's elliptical springs is to embody the Brill idea of breaking up the alleged rhythm of the spring system.

It is singular that a mind so acute as to evolve from its inner consciousness, and without the aid of any practical experiment or demsonstration whatever, this remarkable rhythm theory, should, in the absence of an attack of paresis, be unable to see the plain and obvious function of the elliptic springs in the Peckham construction.

It is to be borne in mind that Peckham employed the combination of semi-elliptic and spiral springs for the avowed purpose of overcoming galloping in his prior patent No. 419,876, which was cited against the Patent- in-Suit in the Patent Office, and replied to by the Applicant, Mr. Brill, thus admitting it to be part of the prior art.

The truth of the matter is this, as is conclusively shown by Defendants' affidavits and mechanical common sense.

Prior to 1890, and when Peckham first began to build these car-trucks, all the springs interposed between the car-body and truck-frame were spiral springs. Bolts passed downward through these spiral springs connecting the car-body to the truck-frame. The connection of these bolts to the truck-frame was necessarily a loose connection; that is, in order that the spiral springs might act and cushion the car-body, it was necessary that these bolts should move up and down through their holes in the truck-frame. This gave a sort of pivotal connection between the car-body and the truck-frame. That is, the bearing of these bolts in the truck-frame was so short, and necessarily so loose, that the upper part of these bolts where connected with the car-body could move quite a distance laterally as though on a pivot. Thus the car-body when pushed upon by the hand could be made to

sway sidewise three or four inches. This gave rise to a very objectionable swaying motion of the car-body when in operation. Prior to 1890, and while Mr. Fowler was still with Mr. Peckham, the introduction of elliptic springs in place of some of the spirals was decided on to overcome this difficulty. It was obvious that if broad, flat springs like elliptics were introduced and tied firmly both to the truck and the car-body, that this motion could not occur without the simultaneous tortion of all of the elliptic springs, and this the severest stress possible in use was insufficient to effect. In this way the swaying effect was overcome; and it was for this purpose, and this purpose alone, that elliptic springs were introduced into the Peckham trucks; and it is for this purpose, and this purpose alone, that they have been used therein down to the present day.

All this is abundantly shown by the affidavits of Peckham, Fowler, Beetem, Newbury and Abbott.

As far as the galloping motion is concerned, the practical experimental demonstrations, immediately hereinafter described, show beyond question that the introduction of the elliptic springs into the Peckham Trucks is a positive detriment; the amount of galloping being the same, while the motion is much easier on both passengers and car when all spiral springs, without any elliptics, are used.

THE RESPONDENTS SUBMITTED THE DETERMINATION OF THESE QUESTIONS TO EXPERIMENT, AND THE RESULTS.

On page 1 of the specification of the Patent-in-Suit on lines 93-101 and page 2 lines 1-6, it is stated in substance, that in the prior art all spiral springs had been introduced between the car-body and the truck-frame, but that this arrangement was not satisfactory in overcoming oscillation.

It was also noticed that Complainants' expert, Mr. Livermore, deposed (Record, bottom p. 79):

> "That the employment of spiral springs alone is inadequate for checking or preventing the longitudinal oscillation (galloping), although perfectly efficinet, so far as the performance of all other func-

tions of a spring support for a car-body is concerned."

And this idea appeared to be re-echoed elsewhere in Petitioners' affidavits, and notably by Akarman, as quoted in Judge Shipman's Decision in the Third Avenue Case. Record, p. 139.

The Respondents reasoned as follows:

That all of these matters in reference to the functions of the springs, and whether they operated according to the theories of the Petitioners or the belief of the Respondents; and incidentally whether Respondents' trucks did really embody the alleged invention of the Patent-in-Suit; were susceptible of absolute, practical demonstration.

It was reasoned that if a Peckham car was obtained, one having the shortest possible wheel-base combined with the longest possible car-body, and if Peckham's elliptic springs were removed and spiral springs of equal tested strength were substituted; and if this car was supplied with automatic registering apparatus which would measure and record its oscillations and speed together with the simultaneous indications of a chronograph; that the amount of oscillation could be determined absolutely at any second time; and that if this car were run at a high rate of speed over a rough track, that the parts respectively played by the spiral and elliptic springs would be a matter of demonstration, and no longer a matter of guess work.

Then, after these experiments were completed and this record obtained, if Peckham's elliptic springs were restored to their original position and the car again run over the same track at the same rates of speed, if Complainants' theory was correct and if Peckham's elliptic springs performed the functions Complainants alleged the Brill elliptics performed, then the galloping with all spiral springs should be far in excess of that shown when Peckham's combination of elliptic and spirals was used.

This was done.

Mr. Fowler, whose skill and experience in testing rail-

way appliances with automatic instruments of precision is recognized among railway men in this country as second to none, was employed to conduct these tests. The use of a Peckham "Extra Long" car-truck, with its superposed car-body was obtained, and placed in Mr. Fowler's charge to be fitted up with such registering appliances as were required. This car had a six and a half foot wheel-base and was thirty feet ten inches long over all. This gave an overhang of over twelve feet at each end. The use of the tracks running from Ninety-fourth street ferry to Thirty-fourth street ferry, in Astoria, was obtained. This locality was peculiarly fitted for these experiments, since the track was old and unusually rough, and the street was wide and little used, so that high speed was possible with safety. The length of the course was three miles down on one track and three miles back on the other track, making about six miles for each round trip. Of these experiments, Mr. Fowler says (Record, p. 96, fol. 159):

> "The nature of these experiments was of such a character that all matters governed by the personal equation of the observer were eliminated, and the action of the car was graphically shown by the operation of the instruments used upon a moving strip of paper, upon which was automatically recorded the rate of speed of the car and the galloping motion of the ends of the car, in such a way that both of these could be positively and accurately determined at any and every half-second interval while the car was in motion."

Four round trips were made with the car equipped with all spiral springs; and four round trips were made over the same tracks at the same rates of speed with the elliptic springs restored; that is, with the Peckham "Extra Long" truck, as it is shown in Complainants' illustration of Peckham's Extra Long Truck, opposite page 45 of the Record. The first two trips with the all spirals were made at the highest speed that it was possible to attain, far in excess of the running schedule of the road. The third round trip with the all spirals was made as near as possible on schedule time—thirteen and a half miles an hour. The fourth round trip with the all spirals was

made at the slower speed of nine miles an hour. The car was then taken to the shop, the elliptic springs replaced, brought back to the course, and four precisely similar trips were made with it.

The results were as follows:

Mr. Fowler states, page 97 of the Record, fol. 161:

> "I am in a position to state positively that the oscillations of the car when the spiral springs alone were employed, and when spiral and elliptic springs were conjointly used, were substantially the same throughout the whole series of tests.
>
> "But there was a marked difference noticed in the character of the movements. * * * When all spirals were used the movements were smoother, more even, less tremulous, less abrupt than when the elliptics and spirals were conjointly used. Thus the riding of the car when the all spirals were employed was * * * smoother and more comfortable than when the spirals and elliptics were conjointly employed. This difference in smoothness or comfortableness of the car motions was noticed and referred to by all the gentlemen who were upon the car with me at the time these tests were made, among whom were Mr. Newbury and Mr. Abbott."

When driven at the highest rate of speed:

> "The maximum galloping movement of the all spiral spring car was one and nine-sixteenths (1 9-16) inches. The maximum galloping movement of the same car provided with elliptical and spiral springs as aforesaid nas one and one-half (1 1-2) inches, a difference of one thirty-second (1-32) of an inch at each end of the car-truck at the point where my instruments were attached, a difference entirely unappreciable except by the delicate instruments I used in making these measurements. (Record, p. 97, fol. 161).

At nine miles an hour the galloping was practically nothing.

> "When the speed was increased to that of the regular running rate, that is, approximately thirteen and a half (13 1-2) miles an hour, the average galloping was barely perceptible in each case, and so

nearly the same with both equipments that, though shown by my instruments, the difference would have been imperceptible to a passenger" (Record, p. 98, fol. 163).

At this rate of speed the maximum gallop of the all spirals was one and five-eights (1 5-8) inches; with the elliptics and spirals one and three-quarter (1 3-4) inches; but each was but a single momentary incident.

These experiments are described in detail by Mr. Fowler in his affidavit, beginning at page 132 of the Record.

They are described by Mr. Newbury, who took part in them, in his affidavit, page 116, etc.

On page 117, Mr. Newbury says:

> "From my own observation of the records of the movements of the car I know that the extent of the oscillations of the ends of the car was substantially the same in both series of tests, and this fact can be made plain from the records which were taken.
>
> "There was quite a marked difference in the character of the oscillations of the ends of the car in the two series of tests."

With all spirals the movements were more gradual and easier; with elliptics and spirals, the oscillations were more quick and jerky, and "much the harder riding of the two."

Mr. Abbott, who also took part in these experiments, describes them on page 132 of his affidavit. He states the car used was a Peckham's "Extra Long," as shown opposite page 45 of the Record. He says:

> "The same car was used in both portions of the tests, the spiral springs being substituted in one portion of them for elliptic springs used in the other portion; and the loads and speeds were the same in both series of tests. From my personal and careful observation of the running of the car, and also from personal observation of the operation of the appratus used to record the oscillation, I know and unqualifiedly state that the oscillations of the car and its general motions while running at high speeds, at medium speeds, and at slow speeds, were at least no more in extent when the spiral springs were em-

ployed throughout, than when the elliptical springs were used in conjunction with the spirals; indeed, I distinctly noticed that the car motions were smoother and more comfortable when all spirals were used than when the spirals and elliptics were used" (Record, p. 221, fol. 47-48).

These experiments would seem to demonstrate conclusively that Peckham's elliptic springs do not perform the function claimed for the elliptic springs of the Patent-in-Suit. Indeed, as far as galloping goes, their introduction into the Peckham truck is demonstrated to be a positive disadvantage; and the only beneficial function they can perform—the only reason for their continued use all these years is that stated by the Respondents; *i. e.*, to prevent the lateral swaying of the car-body.

The Petitioners tendered this issue to Respondents—whether or no the Respondents' trucks embodied elliptical springs slower in action than the spiral springs. To maintain the affirmative of this issue, their expert, Mr. Livermore, Record, pp. 68-69), stated:

"That is, there are two sets of springs, differing in character and in the quickness of action, so that each tends to give a different period of oscillation of the car-body from the other, and thus the effect of one set of springs tending to produce a constantly increasing amplitude of oscillation if the car should be acted upon by a series of impulses, such, for example as in passing over the consecutive rail points, is neutralized by the other set of springs, which are of such character as not to produce a period of oscillation in harmony with the said impulses.

"The two classes of springs employed in the Peckham trucks are of the same specific kind as those shown in the Brill patent, one class being composed of spiral springs, so arranged as to have the weight of the car-body distributed over them, and the other springs are elliptical springs, which are slower in action than spiral springs, and are placed between the car-body and the end extensions of the side beams of the indepedent frame, where they are most effective in tending to check vibrations, and thus to prevent the car-body from acquiring a longitudinal oscillation or galloping movement."

The Respondents accepted the test, and their proofs (heretofore referred to), to sustain their contention that both sets of springs are brought into action and compressed simultaneously, were so overwhelming that the Court found:

> "In the car-trucks of the Defendant both sets of springs are brought into action, and begin to compress simultaneously when the weight upon them is greater than the normal weight of the car."

THE CIRCUIT COURT OF APPEALS' FINDINGS ON CONSTRUCTION OF CLAIMS AND INFRINGEMENT CORRECT.

An examination of the record cannot fail to convince this Court that the Court below correctly construed the Claims 1 and 2 and correctly held that the Respondents' trucks did not infringe the claims so construed. The Court had before it, in reaching its conclusion, not only the usual affidavits upon motions for injunctions, but had the light thrown upon the controversy by the complete record in another case upon the same patent. The Petitioners did not ask the Circuit Court for leave to file supporting proofs, as they could have done under Rule 107 of the Second Circuit. It is not thought that this Court will disturb the finding of the Court below upon the question of the construction of the claims and the non-infringement of such claims by the Respondents' trucks. The Court below could not escape granting an order vacating the preliminary injunction.

We are now brought to consider what seems to us to be the only question deserving serious consideration, and that relates to the dismissal of Petitioners' bill of complaint.

SECOND.

WAS THE CIRCUIT COURT OF APPEALS JUSTIFIED IN DISMISSING THE PETITIONERS' BILL OF COMPLAINT?

At the outset it may appear that it is somewhat drastic to dismiss a bill of complaint upon the hearing of a mo-

tion asking for a preliminary injunction, or upon an appeal vacating an injunction order, but this Court has determined that in a proper case a Circuit Court of Appeals is justified in so doing. (Mast. Foos & Co. *vs.* Stover Mfg. Co., *infra.*) It may be difficult to lay down any rule on this subject which will fit all cases, and it may be that each case should be governed in its determination by its peculiar facts, and the law applicable thereto. The Circuit Court of Appeals did not act hastily or without due consideration when it held that "the case is one in which it is apparent that the Complainant cannot ultimately prevail, and, following the practice sanctioned by Mast, Foos & Co. vs. Stover Mfg. Co., 107 U. S., 485 * * * one in which the bill should be dismissed." As has been heretofore said, the Court of Appeals heard the case not only upon the usual affidavits, but upon the record made up for final hearing in a former case. The Court, in considering and construing Claims 1 and 2 of the patent, decided a question of law. It carefully considered the specification, and nad before it the file wrapper and contents of the application upon which the patent issued, and sufficient of the prior art to warrant its conclusion that the claims referred to should be limited to a combzination of spiral and elliptic springs, so arranged that the elliptics are not brought into action until the spirals have begun to compress. In comparing Respondents' trucks with the claims as construed, it had, on the one hand, the sworn statement of Mr. Livermore that the elliptical springs of Defendants' trucks were slower in action than the spiral springs. Against this it had the sworn statements of Messrs. Peckham, Newbury, Fowler and Abbott that both sets of springs were brought into action and began to compress simultaneously. These latter statements were based upon a series of carefully authenticated tests. The Court of Appeals was confronted and naturally carefully considered the opinion rendered by the decision, in a previous case, of one of its own judges by him. Furthermore, after having given one hearing and a careful consideration to the controversy, it granted a rehearing, where the propriety of dismissing the complaint was brought to the attention of the Court, and after due consideration it affirmed its former order.

If, from the standpoint of the Petitioners, it may appear to them that the action of the Circuit Court of Appeals was drastic, it may be said in reply that they have no equities in their favor. The Patent-in-Suit was granted in 1892. It was not until the fall of 1897 that the Respondents' attention was called to the patent, and though suit was threatened it was not brought against them. It is true that in the fall of 1897 a suit was brought against a street railway company for using another form of truck, made by another builder. That suit was allowed to drag for three years before it came on for final hearing. During those eight years the Respondents had placed upon the market some ten thousand trucks of the styles complained of. Have the Respondents no cause to complain of Petitioners' laches? If this Court reverses so much of the order of the Circuit Court of Appeals, as directed, a dismissal of the bill of complaint, will not this action be more drastic than that of the Circuit Court of Appeals in dismissing the complaint. A patent with twenty-eight claims in the hands of a litigious and powerful corporation may, and often does, mean ruin to a defendant, no matter what the result of the litigation may be. This Court knows what so-called "equity proceedings" in a patent cause mean. What good can come from reopening the case? There is not one chance in a thousand that the Circuit Court will find for the Petitioners if this case is sent back, and there is not one chance in a hundred that the Circuit Court of Appeals will overrule itself. Notwithstanding all this, the Respondents will be put to an enormous expense in defending their position upon questions that have already been carefully passed upon by the Circuit Court of Appeals. The Court is not asked to lay down any general rule to apply to all cases. It can confine itself to the case at bar. It should not lightly exercise its authority, for this is not a case where there is the necessity of avoiding conflict between different Circuit Courts of Appeal, nor is it a matter that affects the interests of any other than the parties themselves or those holding under them. It will not be a bar against a suit on any of the other claims. It will make such a suit less expensive for all of the parties.

With this general statement a more specific answer will be made to what are supposed to be the reasons to be urged by the Petitioners why they should have another day in Court in the present suit.

Petitioners' Reasons Why the Bill of Complaint Should Not Be Dismissed, and Respondents' Answer Thereto.

Petitioners, upon their petition for the writ of certiorari herein, urged that they were entitled to take testimony upon the following points:

"I. The actual construction of the Defendants' various trucks, as they have made and sold them from the time they began to manufacture trucks containing the combination of spiral and elliptical springs of the Patent-in-Suit."

The actual construction of Defendants'-Respondents' trucks is shown by the illustrations offered by Petitioners, by the models offered by Respondents, and by other proofs. There is, and can be, no dispute as to the "actual construction" of Respondents' trucks. No amount of evidence can alter the admitted facts. Reams of paper may be filled with testimony and the parties put to infinite expense, to no purpose. They state that they wish to show this construction covering the entire period of Defendants' manufacture, which is shown to be ten years. To permit this, under the circumstances of this case, would be a travesty upon justice.

"II. The actual operation of the Dedendants' devices as compared with the devices of the Patent-in-Suit."

As has been stated, this issue was tendered by Petitioners, met by Respondents, and decided by the Circuit Court of Appeals. To recognize this request would be in fact to permit the case to be reopened, simply because Petitioners' proofs were insufficient to prove their case, and without giving any valid reasons permitting them to give additional proofs. If their assertions that they desire to take testimony upon this point are true, they should nevertheless be relegated to a new suit. The decision of the Court below settled the construction to be placed upon

Claims 1 and 2, unless this Court decides that it will overrule the Court below. It settles nothing as to the construction of the other claims, or whether Respondents' have infringed them. The questions that have been heretofore passed upon should be considered settled once for all. Petitioners made no effort to controvert Respondents' affidavits. They did not ask the Court below for leave to file replying affidavits, as they might have done under Rule 107 of the Circuit Court for the Southern District of New York, which reads as follows:

> "Rule 107. Suppletory, or supporting, proofs may, at the discretion of the Court, or judge, be offered by the Complainant, to rebut the cause as shown by the Defendant; but the reception of such additional proofs is not to permit the introduction of further proofs in opposition thereto, by the Defendant, previous to the final hearing upon the merits."

The truth is that they could not controvert Respondents' affidavits, and now only wish to prolong this suit, using it as a club against Respondents. To quiet litigation, this Court should frown upon the attempt to harass and annoy the Respondents in the manner shown by this proceeding. We are justified in urging the equities for the animus of the Petitioners in bringing this suit is shown by the fact that they not only made the manufacturing company defendant, but also its officers and directors, without alleging any just cause for so doing.

"III. The question whether the Defendants' devices do, *in fact*, infringe Claims 1 and 2, if said claims are to be limited, as held by the Court below."

This is in substance Petitioners' second reason, and the answer to it is the same as to that reason.

"IV. The question whether Defendants' trucks do, *in fact*, infringe other claims of the Patent-in-Suit (e. g., Claims 9, 10, 11 and 14, which have been sustained by Judge Shipman)."

This is an assertion that they desire to try the question of infringement of certain claims which were passed upon by Judge Shipman, in the Third Avenue Railroad Company suit, and stand on a parity with Claims 1 and 2. Does this Court for a moment believe that had Petition-

ers believed that Claims 9, 10, 11 and 14 were infringed by Respondents' trucks, they would not have asked for an injunction against them, as well as against Claims 1 and 2? They based their right to an injunction as to Claims 1 and 2 upon the doctrine of comity, and that doctrine certainly would have been as persuasive as to the other claims which they now profess they wish to litigate in this suit. Their present position as to such claims is an afterthought, and a mere subterfuge by means of which they wish to get this case reopened and the Respondents forced into a ruinous litigation. If they wish to contest the question of the validity and infringement of these claims, let them bring a new suit. Such suit would be within narrow limits, and easily disposed of. Very different from this, if the doors are thrown wide open and all the questions that have been carefully passed upon by the Circuit Court of Appeals are to be again gone over.

The Circuit Court of Appeals, to an extent, considered all the claims of the patent, but not so far as to create an estoppel against Petitioners. The Court said (Record, pp. 151-152):

> "We do not overlook the consideration that in other claims of the patent this functional characteristic of the invention is made a limitation in terms. Those claims, however, differ in other respects from the two claims in controversy. There are 28 claims in all, and some of them are merely duplicates of others, varying the phraseology, but not in substance. They were obviously framed to cover any possible theory of the invention which is hinted at in the specification, and which the exigencies of an infringement action may require."

"V. The question how the devices of the Peckham patent, No. 410876, would operate, if used, and whether they necessarily limit the complainants' patent in the manner adjudged by the Circuit Court of Appeals."

This reason is without merit. The Peckham patent referred to shows a structure which clearly anticipates Claims 1 and 2, unless they are limited, as they were by the Court below. The patent speaks for itself, and as to how a device constructed thereunder would operate

is immaterial as to any possible issue in this suit. Had the Court below held that this Peckham patent anticipated Claims 1 and 2, then the method of its operation might be a material question. The attention of this Court is again called to what the Circuit Court of Appeals said in referring to this prior Peckham patent, including Complainants' expert's statement.

[redacted]

"This invention in the prior patent to Peckham 'consists in a novel construction of a car-truck, designed to afford spring supports under the end portions of the car-body, as well as the axles, and thus support said body nearly throughout its length, and also obviate in a great measure the vertical oscillation of the same when moving over an undulating track.' The specification describes the spiral axle-box springs of the Patent-in-Suit, and 'suitable springs' for supporting the car-body at the ends 'which may be either of the spiral species, as shown at tt, or of the so-called semi-elliptical form, as shown at t', in Figs. 4 and 5 of the drawings, which latter form of spring is disposed crosswise of the truck, and rests with its ends in suitable shoes.' It also shows saddles mounted like those of Brill upon the axle-boxes. Of this patent the expert for the Complainant makes this statement: 'While the construction shown in his Peckham patent clearly does not embody the combination recited in the several claims of the Brill Patent-in-Suit, and while the Peckham patent contains no indication that any advantage would be attained by the use of a semi-elliptic spring across each end of the car in conjunction with spiral springs supporting the car-body over the journal boxes, I am inclined to think that the construction embodying the semi-elliptic springs would measurably attain the result that is attained by the conjoint use of the spiral and elliptical springs, as embodied in the Brill truck, and that a car having the truck structure shown in Figs. 4 and 5 of this Peckham patent would be less liable to excessive longitudinal oscillation than any of the trucks of the prior art heretofore considered.'

"It thus appears that it was old in the prior art to employ, for the purpose of obviating the oscillation of the car-body, all the parts enumerated in the first and second claims, except the two kinds of springs in the same car-truck, and that the only novelty in the inventions of those claims, details of construction being disregarded, consists in the substitution of both

spiral and elliptical in the place of either spiral or elliptical springs. Indeed, the inventions are wanting, even in this measure of novelty, and reside merely in the substitution of elliptical for the semi-elliptical end springs. The claims are not limited to longitudinal end springs, as the specifications points out they are only preferably employed; and the circumstance that the semi-elliptic springs of the Peckham patent extend transversely instead of longitudinally is, therefore, immaterial."

"VI. That the devices of the said Peckham patent were, and are, *in fact*, incapable of practical use, and that they were never, in fact, used."

It is entirely immaterial whether or not the truck of the prior Peckham patent is or is not capable of practical use. It shows and describes a structure which meets the terms of Claims 1 and 2 of the Patent-in-Suit, unless they are limited, as they have been. It shows a combination of spiral and semi-elliptic springs, with the other elements of the combinations of Claims 1 and 2 of the Patent-in-Suit, and, therefore, to escape it was necessary to limit such claims to operate as described in the specification of the patent.

"VII. The question whether the Complainants' invention antedates the said Peckham and Manier patents."

There is no necessity for any testimony to be taken upon the question whether the invention of the Patent-in-Suit antedates the Peckham and Manier patents. The Manier patent was applied for June 21, 1889, and issued August 27, 1889. The Peckham patent was applied for September 2, 1889, and issued January 21, 1890. Brill conceived his invention in May, 1889, made rough sketches of it. G. M. Brill, the inventor, in his testimony in the Third Avenue Railroad Company suit, referring to the time when he was in Cleveland on November 14 and 15, 1890, says: "that is the time that I brought my ideas into practical use and ordered our people to make the truck." (Record, Third Avenue Railroad, p. 134.) He did nothing further with it until November, 1890.

Upon this state of facts, which certainly is as favorable to Petitioners as any state of facts that could be developed, it becomes a question of law whether or no the

Manier and Peckham patents antedate the Brill invention.

Admitting that Brill was the first to conceive and disclose to another the invention of his patent, it appears that he did nothing further for a year and a half. Meanwhile, Manier and Peckham had applied for and received patents—Manier as early as August, 1889, Peckham as early as January, 1890. While it is true that the first to conceive and disclose is entitled to a patent, provided he is diligent in reducing to practice, he loses his right if during his delay others make their inventions and receive patents therefore. The rule of law is so well established that citation of authorities is deemed unnecessary. Furthermore, the Peckham patent was cited as a reference in the Patent Office against the Patent-in-Suit, and, that it belonged to the prior art was admitted by Brill's attorney in making no assertion of priority and in treating it as a part of the prior art. This was not done ignorantly, for the file wrapper and contents of the Brill application shows that his attorney knew how to antedate patents cited as references, swearing back of them.

"VIII. The utility and value, as well as the wide adoption and use, of the combination of Claims 1 and 2 of the Patent-in-Suit, consisting essentially of spiral and elliptical springs combined with the side beams and movable frames of a car-truck, the said elliptical springs being of slower action and of a different period of action from the spiral springs, as showing patentable quality in the invention, regardless of the relative times at which one spring or the other comes into use."

The testimony upon the point above stated is immaterial. The utility and value of the device of a patent cannot confer patentability upon it. Invention cannot be predicated upon the popularity of a device. (McClain vs. Ortmayer, 141 U. S., 419.)

"IX. That the Defendants' trucks are *not*, as claimed by the counsel for Defendants, the Peckham Company, in his argument against the petition for rehearing in the Court below, 'radically different, both in construction and mode of operation, from that of the Patent-in-Suit," such allegation being based upon *ex parte* affidavits relating chiefly to certain alleged experiments conducted by wit-

nesses for the very purpose of this case, to which affidavits your petitioners were not permitted to reply in the Record now before the Court."

This reason contains a misstatement of fact. The Petitioners were not refused permission to reply to Respondenst' affidavits. Rule 107 of the Circuit Court, before referred to, provides that permission can be given by the Court. Such permission was not asked, and presumably was not desired by Petitioners. Our answers to the other reasons are pertinent, and sufficient for answer to this.

In conclusion, it is respectfully submitted that there was no error in the decision of the Circuit Court of Appeals, and the order should be affirmed.

Respectfully submitted,

CHARLES H. DUELL,
WILLIAM A. MEGRATH,
Of Counsel for Respondents,
220 Broadway, New York City.

New York, February 21, 1903.

NOTE.—Mr. Henry P. Wells, who ably represented the Defendants in the Court below and upon the petition for the writ of *certiorari* herein, was compelled by reason of ill health to retire from practice and the case was transferred to us. We have largely utilized his brief in the Court below and beg leave to call the attention of the Court to his brief for Respondents' filed in this Court on the hearing of the petition for the writ.

FILE COPY.

Supreme Court of the United States.

OCTOBER TERM, 1902.

Supreme Court U. S.
FILED
MAR 9 1903
JAMES H. McKENNEY,
Clerk.

NO. 181.

JOHN A. BRILL and the J. G. BRILL COMPANY,
Complainants and Petitioners,

vs.

THE PECKHAM MOTOR TRUCK AND WHEEL COMPANY, *et al.*,
Defendants and Respondents.

SUPPLEMENTAL BRIEF FOR RESPONDENTS.

CHARLES H. DUELL,
WILLIAM A. MEGRATH,
Counsel for Respondents.

In the United States Supreme Court.

JOHN A. BRILL AND THE J. G. BRILL COMPANY,

Petitioners,

Against } *In Equity.*

THE PECKHAM MOTOR TRUCK & WHEEL COMPANY,

Respondents.

Supplemental Brief for Respondents.

Respondents requested leave to file this supplemental brief for the reason that Petitioners' brief was not filed until February 27th, three days after Respondents' brief was filed, and not within the time provided by the rules of the Court.

In their brief the Petitioners' raised various questions which are so revolutionary that Respondents did not anticipate they would be seriously urged. Statements were also made in variance with the facts developed by the record. The main question thus raised is that of

COMITY.

The position of this court upon the question of comity is clearly stated in Mast, Foos & Co., *vs.* Stover Mfg. Co., 107 U. S. 485.

Notwithstanding this, the Petitioners insist that a Circuit Court of Appeals, upon hearing an appeal from an order granting a preliminary injunction, which injunction is granted on the authority of a prior adjudication sustaining the validity of a patent, is practically bound by the decision of the lower court.

The Circuit Courts of Appeals have been in existence ten years, during which time they have always claimed and exercised the right to review the action of the lower courts in granting a preliminary injunction based upon a prior adjudication, even when that prior adjudication was made by a member of their own court.

This authority has been repeatedly exercised by the Circuit Court of Appeals for the Second Circuit.

Curtis v. Overman Wheel Co., 58 F. R., 784;
Thomson-Houston Electric Co. v. Hoosick Co., 82 F. R., 461;
Thomson-Houston Electric Co. v. Union Co., 86 F. R., 636;
Sprague Electric &c. Co. v. Nassau &c. Co., 95 F. R., 821;
American Graphophone Co. v. National Graphophone Co. et al., 92 F. R., 364.

In the former case the court said that it had been

> "at liberty, in accordance with its statement of the weight to be given to a prior adjudication upon an appealed order for a preliminary injunction (American Paper Pail & Box Co. *v.* National Folding Box & Paper Co., 2 C. C. A. 165, 51 Fed., 229) to re-examine the former adjudication, and to dispose of the question in accordance with its own convictions."

In this case the prior adjudication was in another circuit.

However, in Thomson-Houston Electric Co. v. Hoosick Co., Supra, the prior adjudication was in a Circuit Court of the same circuit.

The Circuit Court of Appeals for the Third Circuit has exercised the same right of re-examination, irrespective of the fact whether the prior adjudication was in or out of its own circuit.

Whippany Mfg. Co. v. United Indurated Fibre Co., &c., 87 F. R., 215.

Horn & Brannen Mfg. Co. v. Pelzer, 91 F. R., 665.

Circuit Courts of other circuits have exercised the same right of review and reversal.

Seiler et al. v. Fuller & Johnson Mfg. Co., 102 F. R. 344 (Seventh Circuit).

No attempt has been made to collate all the cases of this character, but simply to show the authority exercised by the Appellate Courts. We have been unable to find that the United States Supreme Court has ever taken jurisdiction of such a case for the purpose of either reversing or affirming a decision of the Circuit Court of Appeals in merely affirming or vacating a preliminary injunction.

It is not contended that great weight should not be given to the prior adjudication in a patent case by the Circuit Court of Appeals, but, speaking plainly, it would be an absurdity for the United States Supreme Court to so broaden the rule of comity that a Circuit Court of Appeals must be bound by the decision of an inferior court even in the matter of affirming or reversing an order for a preliminary injunction based upon a prior adjudication.

The Respondents' trucks are entirely different from the trucks involved in the Third Avenue Railroad suit and therefore presented in a different light the question of infringement, and, in order to determine that question, it was necessary to carefully consider the Petitioners' patent and to construe the claims thereof.

The opinion of the Circuit Court of Appeals shows a careful consideration of the case and that due weight was given to the decision of Judge Shipman. That Court does not lightly reverse the decisions of its own circuit courts.

THE PRELIMINARY INJUNCTION WAS IMPROVIDENTLY GRANTED BY THE CIRCUIT COURT IN THIS CASE.

Judge Lacombe granted the preliminary injunction in this case upon the prior adjudication in the Third Avenue Railroad Co. suit, and upon that alone. The history of that case shows that it was not such a prior adjudicaiton as should lead even a circuit court to blindly follow it, and had the facts been called to the learned Judge's attention it is thought that he would not have granted the injunction, although it will be remembered that he promptly suspended it pending the appeal. The record in the Third Avenue case shows that, so far as the railroad was concerned it was a friendly suit, and that so far as the maker of the trucks complained of was concerned, it did not have full control, and that while the testimony was being taken its interest ceased by the fact that the trucks complained of were discarded by the Third Avenue Railroad.

The history of the litigation appears from the following extracts from the record. George M. Hoadley, Manager of the Bemis Company, testified:

> "Mr. Rawle notified me that they were about to bring suit—that is, he, representing the Brill Company—against the Third Avenue Railroad of New York, for infringement of certain patents; that they had gone over the matter with the Third Avenue Railway people and HAD RECEIVED PERMISSION TO BRING SUCH A SUIT, and that unless some arrangement was made immediately with the Brill Company, such suit would be brought"
>
> A. 12, D. R. 178.

The president of the Third Avenue Railroad Company wrote the Bemis Car Box Company (the maker of the trucks) as follows:

> "We beg to add that we have no interest in the suit, inasmuch as in either event the result will not affect the Company." D. R., p. 270.

The Bemis Company sought to intervene, but their

petition was denied, the solicitors for the complainant and the nominal defendant opposing it. D. R. p. 12.

The defendant's superintendent, Mr. Robertson, was called as a witness by the complainant and opportunity for the Bemis Company's attorney to cross-examine him was not granted. C. R .p. 63. Other employees of the nominal defendant appeared as witnesses without being subpoenaed and the Third Avenue Company assisted the complainant in various ways. C. R. p. 253. The record also shows that the trucks in suit were discarded before the testimony was closed. Mr. McGowan, an employee of the Third Avenue Company, testified:

> "Q. 24. State about how many of them there were in use by your company as originally received?
> "A. I should say about 180.
> "Q. 25. State whether or not they are still in use?
> "A. No; they ain't in use any more."

No appeal was taken, and so far as the record discloses, no attempt was ever made to utilize this adjudication against the Bemis Company.

Wilson v. Consolidated &c. Co., 88 F. R., 286.

COMPLAINANT'S LACHES.

The patent in suit was issued in 1892. No notification of infringement was given Respondents herein until the Summer of 1897. The Respondent Company asserted its right to continue to make its trucks and notified Appellants that it would defend any suit if it were brought. Instead of bringing a suit against this Respondent Company, which was manufacturing within the Southern District of New York, these Petitioners brought suit against a user of other trucks in the same district. Under such a state of facts it was manifestly unjust three years thereafter, upon a notice of four days, that the petitioner should ask and obtain a preliminary injunction. The result of such non action was that the Respondents have openly placed thousands of trucks upon the market, at least twelve hundred in the City of Philadelphia, where the Petitioners

have their place of business, and five hundred in New York Ctiy. Transcript of Record, p. 90. Brush Co. vs. Electric Co., 64 F. R., 775.

It is for these reasons and others we insist that the Circuit Court improvidently granted the preliminary injunction in this case. If this Court determines to review the propriety of the act of the Circuit Court of Appeals in reversing the order for the injunction, then we respectfully insist that not only the reasons given by the Circuit Court of Appeals for its action should be examined, but also the other facts developed by the record.

THE PRIOR ART.

Appellants, in their brief assert: That there is no prior art save the Manier and Peckham patents. And this in the face of their expert affidavit, in which is enumerated a large number of patents showing, among other things, that springs had been so arranged that additional springs were brought into action only after the springs first operated upon had been compressed, and that trucks having independent frames constituting and extended spring base for car bodies were numerous. (Transcript of Record, pp. 73, 74 and 75.) The opinion of the Circuit Court of Appeals, to which attention has been called in our main brief, states that the invention resides merely in the substitution of elliptical for semi-elliptical end springs.

It is a matter of common knowledge that the truck art is as old as steam railways, and it is one of the arts most fully developed. Truck patents have repeatedly been before the courts, and held to be of such limited character as to require a narrow construction.

> Pennsylvania R. Co. vs. Locomotive Engine Safety Truck Co., 110 U. S., 490;
> McCarty vs. Lehigh Co., 160 U. S., 110;
> Brill vs. St. Louis Car Co., 80 F. R., 909;
> Brill vs. St. Louis Car Co., 90 F. R., 666.

There are no primary or pioneer truck patents, as Petitioners would have the Court believe.

The Petitioners' assertions that the trucks of the patent-in-suit are substantially the only single, non-pivotal trucks in use is a statement not borne out by the record. They give only two or three specific instances where they have placed the trucks upon the market, and the record shows that the Petitioners have discontinued the manufacture of the truck of the patent. (Transcript of Record, p. 89.) It is true the Respondents' trucks are the trucks that have largely taken the market, but they operate upon a different principle, and are not the trucks of the patent-in-suit. Furthermore, single trucks of a dozen different varieties are in actual use, and one of these is the truck known as the "Lord Baltimore," in use on all the motor cars of the Capitol Traction Company of Washington. These facts should be considered by the court, provided the propriety of the action of the Circuit Court of Appeals in vacating the injunction is to be passed upon by this court—otherwise they are irrelevant.

The Appellants' asertion that no opportunity was given them to reply to the Respondents' affidavits is misleading and not borne out by the record. We have shown in our main brief that the rules of the Court provide that the complainant, upon a motion for preliminary injunction, may be given leave to file supplemental affidavits answering the defendants' affidavits.

THE COURT OF APPEALS DID NOT ERR IN DIRECTING THE DISMISSAL OF THE BILL.

Upon the argument of this case counsel for Respondents understood that the Court did not care for any extended reference to facts which were only shown and disputed by the affidavits. Respondents concede that if the propriety of the action of the Circuit Court of Appeals in vacating the injunction is not to be passed upon, then the affidavits on material disputed facts may properly be held to require little attention in passing upon the question whether the lower court erred in directing that the bill be dismissed. This admission, however, only goes to such facts as are disputed; to such facts as are only shown by the affidavits; and to those facts which are

necessary for the determination of the question of the dismissal of the bill. The construction and operation of Respondents' trucks is not a question which requires proof by affidavit. The Petitioners exhibited illustrations of Respondents' trucks. The Respondents admit that the trucks, as illustrated opposite page 45, are their trucks, and are correctly illustrated. Models of these trucks were before the lower court, and are before this Court, and that they are correct reproductions of Respondents' trucks has not been denied. An examination of the model trucks leaves open no question as to their construction or operation. Both sets of springs in Respondents' structures are secured at the top and bottom to the stationary and movable frames respectively, and when the movable frame is depressed all the springs are compressed simultaneously, and when this frame rises all the springs are extended or retracted and co-operate with each other to prevent the car body from rising. When one end of the car goes down and the other up, all the springs at that end which goes down are simultaneously depressed and all the springs at the other end are simultaneously retracted, and co-operate with each other to prevent the latter end from rising and the car galloping. It is a mechanical impossibility for both sets of the springs in Respondents' trucks to compress or retract otherwise than simultaneously. In the Petitioners' structure, on the other hand, only the spiral springs are secured at the upper ends to the movable frame; the elliptic springs are not only not secured to the movable frame, but this frame does not even contact with said elliptic springs unless the car is abnormally depressed. When one end of Petitioners' car goes down and the other goes up, in galloping, the down end first compresses the spiral springs and then contacts with and presses the elliptic springs. The upper end, however, is entirely raised out of contact with the elliptic spring, and only the spiral spring is retracted to resist the rising of this end of the car. The elliptic spring does not, in Respondents' structure, co-act with the spiral spring to resist or overcome the tendency of this end of the car from rising. It might just as well be absent from the structure, so far

as co-acting with the spiral spring for this purpose, and it only co-acts with the spiral at the other end when that end of the car has been abnormally depressed. It is clear from the examination of the Petitioners' patent and the admitted construction of Respondents' device, and without any evidence or testimony that the two structures operate entirely different.

No amount of testimony can make black white or white black. Here we have fixed, certain facts. The Circuit Court of Appeals had these to start with.

Whether the Respondents' trucks infringe Claims 1 and 2 of the patent-in-suit was to be determined by a comparison between the trucks and the claims of the patent. In order to decide this question the Court examined the claims, and construed them in the light of the specification, and its conclusion that:

> "if the patentee had attempted to do so, it would have been difficult to frame a specification which more industriously sets forth as essential to his invention such a construction and arrangement of the spring devices that the elliptic springs will not be brought into play until the spiral springs have been compressed by the weight of the car body and the added load, 'until the weight of the load on the axle-box springs begins to compress such springs abnormally.' This characteristic of the invention must be imported into the claims, and would have to be if the qualifying term, 'substantially as described,' had not been incorporated into them."

The Court having, after examination, decided that:

> "in the car trucks of the Respondents both sets of springs are brought into action, and begin to compress simultaneously when the weight upon them is greater than the normal weight of the car,"

the logical conclusion of the Court was that there was and could be no infringement and that, therefore, the bill must be dismissed.

Furthermore, the Court had before it the prior art, but refers specifically to only two of the prior patents—Manier and Peckham. It will be noticed that it makes no

reference to the tests made by Respondents, as shown by their affidavits, nor in fact to any disputed questions of fact, which require any evidence to elucidate. The Court directed the dismissal of the complaint, upon an examination of Respondents' trucks and a comparison made between them and the structure covered by the claims of the patent, construed in the light of the specification. The Court did not find it necessary to even refer to the file wrapper and contents of the application upon which the patent-in-suit was brought, although it was before it. Had the Court examined that document, it would have had an additional reason for its direction of dismissal.

The file wrapper and contents show that, conceding the Peckham patent was withdrawn as a reference, it was not withdrawn until after applicant had solemnly admitted that the difference between the subject matters of the claims in dispute and the Peckham prior patent resided in the fact that:

> "Peckham describes nothing about one set of springs being quicker or slower than the other, nor one series of springs being adapted to act prior to the other series."

After such an admission the examiner was justified in not again referring to the Peckham patent.

The question whether or not the Peckham and Manier patents belong to the prior art is one we have treated in our main brief, and we have shown that upon the facts, as claimed by the Petitioners, in view of the well settled rules of law, no amount of evidence can alter the finding that they belong to the prior art.

We have also shown in our main brief that the additional claims which the Petitioners now say they desire to litigate were claims on which, under the doctrine of comity, they had a right to ask for a preliminary injunction, and that those claims contain, among other limitations, the limitations that the elliptic springs do not compress until the spiral springs are abnormally compressed.

Correctly construed as the patent was by the Court of Appeals, its conclusion was clearly correct in the hold-

ing that the Petitioners could not ultimately recover, and the Court was, therefore, justified in intervening to save all the parties from an enormously expensive litigation.

We confidently believe that when this Court examines the patent-in-suit, the Respondents' structures, and the prior art that its conclusions must be that the Circuit Court of Appeals of the Second Circuit committed no error in directing the dismissal of the bill.

Respectfully submitted,

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WILLIAM A. MEGRATH,
Counsel for Respondents,
220 Broadway,
New York City, N. Y.

March 7, 1903.

Supreme Court of the United States.

No. 181.—October Term, 1902.

John A. Brill and The J. G. Brill Company, Petitioners,
vs.
The Peckham Motor Truck and Wheel Company et al.

On writ of certiorari to the United States Circuit Court of Appeals for the Second Circuit.

[April 6, 1903.]

This was a bill in equity filed in the Circuit Court of the United States for the Southern District of New York by John A. Brill and The J. G. Brill Company against The Peckham Motor Truck and Wheel Company and others, praying for injunction and accounting for infringement of letters patents No. 478,218, for an improvement in car trucks, issued July 5, 1892.

The J. G. Brill Company was a manufacturer of street cars and trucks at Philadelphia, and The Peckham Motor Truck and Wheel Company was a manufacturer of trucks at Kingston, New York.

The bill was filed October 15, 1900, and a motion for preliminary injunction on behalf of complainants on claims one and two of the patent in suit was heard by Judge Lacombe on October 26, 1900, on affidavits previously served by complainants, including the record of an adjudication in the Circuit Court in the case of *Brill* v. *Third Avenue Railroad Company*, in which the opinion of Judge Shipman was filed July 9, 1900. 103 Fed. Rep. 289.

Defendants filed affidavits at the hearing, which had been sworn to October 25 and 26, and which complainants had apparently had no opportunity to inspect before the argument. These affidavits set up two patents, (Manier of August 27, 1889, No. 409,993, and Peckham, of January 21, 1890, No. 419,876,) which had also been before Judge Shipman in the prior case, and defendants contended in view of these two patents that the two claims in controversy must be limited in their scope, and that there had been no infringement of the claims as thus limited. Judge Lacombe held that as there was no prior patent before him which had not been before Judge Shipman, and as the combination, which Judge Shipman described as the gist of the invention, was undoubtedly in defendants' structures, complainants were entitled to a restraining order under "well settled rules of practice." 105 Fed. Rep. 626. The preliminary injunction was therefore granted. From this interlocutory order defendants took an appeal to the Circuit Court of Appeals for the Second Circuit, and on

a hearing there the order granting the preliminary injunction was reversed, and the cause remanded to the Circuit Court with instructions to dismiss the bill with costs. 108 Fed. Rep. 267. A petition was filed for a rehearing and denied. 110 Fed. Rep. 377. This writ of certiorari was then granted. 183 U. S. 698.

Mr. Chief Justice FULLER delivered the opinion of the Court:

The Circuit Court for the Southern District of New York, Shipman, J., presiding, in July, 1900, entered a decree in the case of *Brill* v. *Third Avenue Railroad Company*, adjudging the letters patent to George M. Brill of July 5, 1892, No. 478,218, for improvements in car trucks, as to claims 1, 2, 9, 10, 11, 12, 14 and 27 thereof, to be good and valid, and that defendant, as the purchaser of one hundred and eighty-one trucks of the Bemis Car Box Company, had infringed the exclusive rights of complainant thereunder; and for injunction, accounting, and recovery of damages. And a final decree was entered in the cause October 1, 1900. This bill was filed October 15, 1900, in the same court, against another truck building company, and a motion for preliminary injunction was heard in that court before Lacombe, J., and sustained on the strength of the previous adjudication. The patent related to the construction of non-pivotal electric street railway trucks, and the invention was intended to remedy oscillation.

Judge Lacombe, in ordering the preliminary injunction, said:

"The only question presented is whether defendant's structure infringes. That involves the construction of the claims declared on, and, for the purposes of this motion, the construction already adopted by this court on final hearing in the Third avenue case (103 Fed. Rep. 289) should be followed; for there is no prior patent, no prior use, proved here, which was not before Judge Shipman. It is true that in that case the defendant's device was a much closer copy than the one now under consideration, containing, as it did, the feature that the spiral springs came first into play, and the further feature of depending caps, in which the leaves of the elliptic springs play vertically, but the court most carefully indicates that the leading feature of the invention lies outside of these details; that the 'gist of the invention consists in combining with the frames of the truck and the spiral springs other springs, viz., elliptical springs, between the car body and the extension of the independent frame,' the object being to break the rhythm of the springs, and thus do away with the galloping or rocking motion. The defendant here insists that there is no rhythm broken, indeed, that there is no rhythm to break, and that the combination of the quotation does not do away with the galloping motion. On those points, however, this court should follow the earlier decision. There are additional rods, and also spirals, below the frame, which apparently in defendant's structure do their share in eliminating galloping; but the combination which Judge Shipman described as the gist of the invention is undoubtedly in defendant's structure, and, under well-settled rules of practice, complainant is entitled to a restraining order until final hearing."

The rule of practice for one member of a court to regard the prior decision of another, in cases of this kind, as to be followed until otherwise authoritatively adjudicated, seems to be justified in the orderly conduct of proceedings, and the Circuit Court of Appeals did not hold that the Circuit Court had improvidently exercised its discretion in granting the preliminary injunction in accordance with its own prior decision and decree, which decree was not the subject of the appeal. But the court proceeded to dispose of the case upon its merits as one in which it was apparent complainant could not ultimately prevail, and relied on *Mast, Foos and Company* v. *Stover Manufacturing Company*, 177 U. S. 485, as authorizing the pursuit of that course.

It was contended there that the Circuit Court of Appeals for the Seventh Circuit erred in refusing to follow the opinion of the Circuit Court of Appeals for the Eighth Circuit in respect of the validity and scope of a patent, and in reversing the order of the Circuit Court, which, on the ground of comity, had done so, and we held that the obligation was not imperative, but that the Circuit Court of Appeals for the Seventh Circuit was at liberty to exercise its own judgment.

In doing so the Court of Appeals directed the dismissal of the bill, before answer filed or proofs taken, on an appeal from an order granting a temporary injunction, and its action in that regard was a principal question discussed in this court.

It should be observed that in that case complainant was served with defendant's affidavits before the argument below, and was permitted to put in rebuttal affidavits. The merits of the case were fully before the court, and the patent in suit related to the use in a windmill of an old and simple mechanical device for the purpose of converting a rotary into a reciprocating motion. It was held that the case fell within the rule sometimes applied where there is no dispute upon the facts, and there appears to be no reasonable possibility that complainant may succeed. But this court took care to define the class of cases in which that might be done, and speaking through Mr. Justice Brown said:

"Does this doctrine apply to a case where a temporary injunction is granted *pendente lite* upon affidavits and immediately upon the filing of a bill? We are of opinion that this must be determined from the circumstances of the particular case. If the showing made by the plaintiff be incomplete; if the order for the injunction be reversed, because injunction was not the proper remedy, or because under the particular circumstances of the case, it should not have been granted; or if other relief be possible, notwithstanding the injunction be refused, then, clearly, the case should be remanded for a full hearing upon pleadings and proofs. But if the bill be obviously devoid of equity upon its face, and such invalidity be incapable of remedy by amendment; or if the patent manifestly fail to disclose a patentable novelty in the invention, we know of no reason why, to save a protracted litigation, the court may not order the bill to be dis-

missed. Ordinarily, if the case involve a question of fact, as of anticipation or infringement, we think the parties are entitled to put in their evidence in the manner prescribed by the rules of this court for taking testimony in equity causes. But if there be nothing in the affidavits tending to throw a doubt upon the existence or date of the anticipating devices, and giving them their proper effect, they establish the invalidity of the patent; or if no question be made regarding the identity of the alleged infringing device, and it appear clear that such device is not an infringement, and no suggestion be made of further proofs upon the subject, we think the court should not only overrule the order for the injunction, but dismiss the bill."

In the present case the notice of the motion for preliminary injunction was returnable October 19, and due service of complainants' affidavits was made; the hearing was adjourned to October 26 on defendants' application; and on that day defendants' affidavits were presented and the hearing proceeded, complainants not having been afforded previous opportunity to inspect these affidavits, and not being granted leave to rebut them.

The record does not show that leave was asked, but if so, it would naturally be denied because in the opinion of the Circuit Court its previous decision necessarily required the granting of the preliminary injunction. In any view the effect was that complainants, although they were prepared to go on with the motion they had made, were subjected on appeal to the same consequences as if the preliminary hearing had been a final one.

Complainants, if the case had been retained for final hearing, could have cross-examined defendants' *ex parte* witnesses as to the actual construction of defendants' various trucks containing the combination of spiral and elliptical springs of the patent in suit; the actual operation of defendants' devices; whether defendants' devices in fact infringed claims 1 and 2 of complainants' patent if limited; or claims 9, 10, 11 and 14 thereof; or whether the devices of the Peckham patent, No. 419,876, were in fact incapable of practicable use, or were ever in fact used; and could have introduced evidence on these subjects, as also on the question whether complainants' invention antedated the Peckham and Manier patents; to establish the utility and value and adoption and use of the combination of claims 1 and 2; and that defendants' trucks were not "radically different, both in construction and mode of operation from that of the patent in suit," as alleged by defendants' counsel to have been shown by the experiments set up in defendants' affidavits.

Those experiments were performed by respondents and their experts between the filing of the bill and the hearing of the motion, some eleven days, and counsel say that "these experiments would seem to demonstrate conclusively that Peckham's elliptic springs do not perform the function claimed for the elliptic springs in the patent in suit. Indeed, as far as galloping goes, their introduction into the Peckham truck is demonstrated to be a positive disadvantage; and the only beneficial function they can

perform—the only reason for their continued use all these years is that stated by the respondents, *i. e.*, to prevent the lateral swaying of the car body."

This is said in support of the contention, on which counsel lay great stress in this court, that respondents lessen oscillation by the use of an underlying tension spring, and use elliptical springs merely for bracing the car body.

Counsel also say: "That all of these matters in reference to the functions of the springs, and whether they operated according to the theories of the petitioners or the belief of the respondents; and incidentally whether respondents' trucks did really embody the alleged invention of the patent in suit; were susceptible of absolute, practical demonstration."

Clearly complainants were entitled to test these experiments by cross-examination and to introduce evidence on their part as to the operation of the springs.

If Judge Shipman's definition of claims 1 and 2 was correct, no question of infringement would arise, but the Court of Appeals held that his interpretation was incorrect, and on reference to Manier, No. 409,993, and Peckham, No. 419,876, that the claims, as they read and as Judge Shipman construed them, must be limited. Yet it is admitted by counsel that the date of the conception of the invention of the patent in suit was prior to the dates of both the patents of Manier and Peckham, but it is argued that the inventor was not sufficiently diligent in reducing his invention to practice. If the matter of delay were of importance, as assumed, it was open to the inventor to explain the reason of the delay, if any, and complainants were entitled to make proof of such explanation.

Again, in respect of "the actual operation of defendants' devices as compared with the devices of the patents in suit," and "the question whether defendants' devices do, in fact, infringe claims 1 and 2, if said claims are to be limited as held by the court below," respondents' counsel contend that this issue was tendered by respondents and decided by the Circuit Court of Appeals, and that the case ought not to be "reopened" to permit petitioners to introduce additional proofs. The difficulty is, however, that the issue was only tendered on the preliminary application, and the hearing was not in itself a final hearing. If complainants in every case must understand that a motion for preliminary injunction requires the same showing as on final hearing, very few motions of that sort would be made.

We think the case comes within the exceptions pointed out in the Mast, Foos & Company decision, and are impressed with the conviction that complainants have not had their day in court and that it ought to be accorded them. At the same time we do not wish to go into the case so far as to indicate any opinion as to the proper construction of claims 1

and 2 or on the question of infringement. There should be a hearing below after the case is made ripe for it unaffected by any intimations from us.

The situation then is this: The order for a preliminary injunction was reversed as part of the decree directing the dismissal of the bill, and not independently of the grounds on which that conclusion rested. But the Court of Appeals had the power to vacate the preliminary injunction, and had only this been done, an appeal to this court could not have been taken, nor would a certiorari ordinarily have been granted in such circumstances.

Considering the peculiar attitude in which the case is presented, we prefer not to discuss the question how far the appellate courts are justified in reversing orders of the Circuit Courts granting preliminary injunctions, when their discretion has not been improperly exercised, and the order will be

Decree of the Circuit Court of Appeals reversed, and cause remanded to the Circuit Court with a direction to proceed to final hearing in due course; the latter court being left at liberty to deal with the preliminary injunction as it otherwise might but for this decree.

True copy.

Test:

Clerk Supreme Court, U. S.